

Name: Westbank Asbestos  
EICB Log #: 97-1032

ROUTING:  
Ed Skowronski

### ATSDR Record of Activity

UID #: TYM4      Date: 3-05-97      Time: 11:30      am ☒ pm ☐

Site Name: Westbank Asbestos Site (Addendum to the 11-21-96 AROA)  
City: Marrero Cnty: Jefferson Parish State: LA

CERCLIS #: \_\_\_\_\_ Cost Recovery #: 60Y6 Region: 6

Site Status (1) ☐ NPL ☒ Non-NPL ☐ RCRA ☐ Non-Site specific ☐ Federal  
(2) ☐ Emergency Response ☐ Remedial ☒ Removal ☐ Other

#### Activities

|   |   |  |   |
|---|---|--|---|
| <input type="checkbox"/> Incoming Call              | <input type="checkbox"/> Public Meeting | <input checked="" type="checkbox"/> Health Consult | <input type="checkbox"/> Site Visit               |
| <input type="checkbox"/> Outgoing Call              | <input type="checkbox"/> Other Meeting  | <input type="checkbox"/> Health Referral           | <input checked="" type="checkbox"/> Info Provided |
| <input checked="" type="checkbox"/> Conference Call | <input type="checkbox"/> Data Review    | <input type="checkbox"/> Written Response          | <input type="checkbox"/> Training                 |
| <input type="checkbox"/> Incoming Mail              | <input type="checkbox"/> Other:         |  |   |

Requestor and Affiliation: (2) John Martin, Sr. OSC-EPA Region 6,  
Site Response Section

Phone: 214/665-6748; FAX 214/665-7447  
Address: 1445 Ross Avenue, Mail Code 6SF-R2  
City: Dallas State: TX Zip Code: 75202-2733

#### Contacts and Affiliation

|   |  |
|---|--|
| (1) <u>Bobbie Erlwein, Region VI Rep.</u> | (4) <u>Robert Starszak</u>             |
| (4) <u>Dr. Mathison, M.D.</u>             | (4) <u>Blaise Mangano</u>              |
| (2) <u>Traci DeLynn Bryant, OSC</u>       | (2) <u>Troy Naguin, EPA Contractor</u> |

1=ATSDR      2=EPA      3=Other Fed      4=State Health      5=State Environment  
6=Local Health      7=Elected Official      8=Private Co      9=Private Citizen  
10=News Media      11=Citizen Group      12-USCG      13=Natl Respsns Cntr      14=Other

#### Program Areas

|   |  |   |                                      |
|---|--|---|--------------------------------------|
| <input type="checkbox"/> Health Assessment              | <input type="checkbox"/> Health Studies    | <input type="checkbox"/> Tox Info-profile   | <input type="checkbox"/> Worker Hlth |
| <input type="checkbox"/> Petition Assessment            | <input type="checkbox"/> Health Surveillnc | <input type="checkbox"/> Tox Info-Nonprofil | <input type="checkbox"/> Admin       |
| <input type="checkbox"/> Emergency Response             | <input type="checkbox"/> Disease Registry  | <input type="checkbox"/> Subst-Spec Resch   | <input type="checkbox"/> Other       |
| <input checked="" type="checkbox"/> Health Consultation | <input type="checkbox"/> Exposr Registry   | <input type="checkbox"/> Health Education   |                                      |

#### Narrative Summary:

EPA Region VI requested that ATSDR comment on proposed removal activities at the Westbank Asbestos Site in Marrero, Louisiana and determine if these activities are protective of public health. The site includes the Jefferson Parish communities of Bridge City, Westwego, Marrero, Harvey, and Gretna, and the Orleans Parish community of Algiers. Currently, EPA Region VI is conducting a time-critical removal action at these sites for Asbestos Containing Material (ACM) used in an aggregate form (similar to asphalt) to pave driveways, walkways, and servitudes (e.g., easements between sidewalks

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and roads) at residential properties, schools, daycare facilities, parks, etc. On August 21, 1996, a public health consultation was written for this site and is provided as background information [Attachment 1].

On November 20, 1996, a site visit was conducted by representatives from ATSDR headquarters, ATSDR Region VI, Louisiana State Health Department, and EPA Region VI. The site visit was conducted to observe current site conditions and removal activities. The site visit also provided valuable information needed to assist the health agencies in providing public health recommendations to the community and EPA during removal activities. During the site visit, four removal crews were observed at residential properties and a ballfield. After January 1, 1997, nine crews will join the removal activities at Westbank.

As of our site visit 893 properties (includes: commercial, residential and high access areas (HAAs) such as schools, daycare facilities, parks, etc.) have been identified as being contaminated with ACM and 31 properties have undergone removals. Priority of removals are based on whether the property is a HAA and whether the ACM on the surface of the ground is deteriorating. The properties identified as being contaminated with ACM were screened by visual inspection, sampling and analysis, and evaluation of historical aerial photographs along with interviews with local officials and residential property owners.

At each property undergoing removal activities the following practices were observed: dust suppression techniques (fine mist of water over entire excavation); sealing of residential windows and doors with plastic; air monitoring (three air stations: residence; upwind and downwind of excavation activities); worker personnel air monitoring; trucks lined with heavy plastic to prevent cross contamination (heavy plastic is also used to cover the ACM before it is carried to the designated/approved landfill); and a decontamination zone for the removal workers.

Also during the site visit, ATSDR and the Louisiana State Health Department met with EPA Region VI to discuss the following questions concerning removal activities at residential properties and HAAs:

1. Removal of ACM in driveways at residential properties and HAAs: The depth of ACM has been determined to be greater than 1 foot in some cases. EPA proposed removing visible ACM to a maximum depth of 6 inches below the surface in driveways. If post sampling results are greater than 1% asbestos, then a geotextile liner (warning barrier) will be placed over the ACM, and covered with cement. EPA will notify the property owner if waste (asbestos greater than 1%) is left in place. If post excavation samples are less than 1% asbestos, then no geotextile liner will be installed. EPA will pursue institutional controls to the extent/limit of their authority and will encourage appropriate local and state agencies to pursue similar actions under their respective authorities to notify future property owners that ACM is below the surface at this property.

2. Removal of ACM in soils at residential properties and HAAs: Depth of ACM may be 1 foot or greater. EPA proposed removing visible ACM to a maximum depth of 1 foot at residential properties. If all the ACM is removed in the soils, the excavation will be backfilled with clean soil. If ACM is left in place (asbestos greater than 1%) in the soils below 1 foot, a geotextile liner (warning barrier) will be placed over the ACM and clean soil will be backfilled over the geotextile liner. EPA will notify the property owner if waste had to be left below the surface. The State of Louisiana Department of Environmental Development Control (to include the local/parish utility officials) will also be notified by EPA that ACM is below the surface at this location. EPA will pursue institutional controls to the extent/limit of their authority and will encourage appropriate local and state agencies to pursue similar actions under their respective authorities to notify future property owners that ACM is below the surface at this property.

If in the course of excavation a horizontal subsurface vein of ACM is identified, EPA will remove (i.e., chase) the visible ACM to a maximum depth of 1 foot and will restore property as discussed above with a warning barrier. Each deviation from this course of horizontal excavation will be evaluated by the health agencies and EPA on a site by site basis.

3. Removal of ACM over servitudes (easements: utility/water/sewer lines or pipes) at contaminated properties: EPA proposed removing the ACM subsurface to approximately 1 foot or the top of the utility line (ACM will not be removed if the removal activities compromise the integrity of the utility lines or pipes), placing a geotextile liner (warning barrier) over the pipe and remaining ACM, 6 inches of sand over the geotextile liner, and 6 inches of gravel over the sand. EPA will notify the State of Louisiana Department of Environmental Development Control (including local/parish utility officials) of the locations where waste had to be left in place below the surface around utility/water/sewer lines or pipes. EPA will pursue institutional controls to the extent/limit of their authority and will encourage appropriate local and state agencies to pursue similar actions under their respective authorities to notify future property owners and the utility authorities that ACM is below the surface at this property.
4. If ACM is determined to be under sidewalks, roads, or foundations of homes during excavations, EPA will leave ACM in place and notify property owners and the State of Louisiana Department of Environmental Development Control (to include notifying local/parish utility officials) of the locations waste had to be left in place below the surface. Waste had to be left in place below the surface because excavations would compromise the integrity of these structures. EPA will pursue institutional controls to the extent/limit of their authority and will encourage appropriate local and state agencies to

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pursue similar actions under their respective authorities to notify future property owners that ACM is below the surface at this property.

5. Sample Analyses: Soil samples are being analyzed using PLM (polarized light microscopy) analysis. Air samples are also being analyzed using PLM. Initially 18 air samples are being evaluated using TEM (transmission electron microscopy) methodology as confirmation samples.

In addition to the above discussion during the site visit, the health agencies and EPA observed under one home (the home was raised approximately a foot above ground surface on concrete blocks) ACM that was highly deteriorated (gray sand to dust appearance). The health agencies and EPA discussed the need to encapsulate (as an interim measure or any other type of solution to prevent exposure to the ACM) the deteriorating ACM material at this home and any other home where these conditions exists, until a permanent remedy can be identified. The health agencies also recognized that there is a need to air sample under a few homes that contain ACM in this deteriorating condition. The air data would allow the health agencies to provide public health recommendations to residents living in homes where similar conditions exist.

Action Required/Recommendations/Info Provided:

Based on the information provided, ATSDR and the Louisiana State Department of Health concurs with EPA's proposed removal activities as stated above at the Westbank sites. In addition, the health agencies have made the following recommendations:

1. Encapsulate (as an interim measure) the deteriorating ACM under homes that are built above ground level that allow easy access to children playing or to utility workers to prevent exposure to the ACM. A permanent remedy to ensure future exposures to the ACM does not occur should be implemented under these homes.
2. Conduct air sampling under a few homes (that are raised above ground level and have adequate crawl spaces which allow easy access to children playing or to utility workers) that are contaminated with deteriorating ACM. The air data obtained at these homes will allow the health agencies to communicate with the home owners about their health concerns.

ATSDR will be available to assist EPA Region VI with further evaluation and/or review of site by site removals activities, sampling plans, sampling data, etc., as they become available.

Signature: Tammie McRae, M.S. *Tammie McRae* Date: 3-5-97

Concurrence: Steven Kinsler, Ph.D. *Steven Kinsler* Date: 3/5/97

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**ROUTING:**  
Ed Skowronski

Enclosures: Yes ( ) No (x); MIS entered: Yes ( ) No ( )

cc: EICB File  
Ed Skowronski  
Bobbie Erlwein, Region VI Representative  
PERIS  
Tina Forrester, DHAC/TPO-LA  
Steven Kinsler, EICB/CS

Name: Westbank Asbestos  
LOG #: 97-2015

## ATSDR Record of Activity

ROUTING:  
E. Skowronski  
CS FILE

UID #: syk5 Date: 1-24-97 Time: \_\_\_\_\_ am \_ pm \_

Site Name: Westbank Asbestos City: Marrero Cnty: Jefferson Parish  
State: LA

CERCLIS #: \_\_\_\_\_ Cost Recovery #: 60Y6 Region: 6

Site Status: (1) ☒ NPL \_ Non-NPL \_ RCRA \_ Non-Site specific \_ Federal  
(2) \_ Emergency Response \_ Remedial \_ Removal \_ Other:

### Activities

\_ Incoming Call \_ Public Meeting \_ Health Consult \_ Site Visit  
\_ Outgoing Call \_ Other Meeting \_ Health Referral \_ Info Provided  
\_ Conference Call ☒ Data Review \_ Written Response \_ Training  
\_ Incoming Mail \_ Other

Requestor and Affiliation: (1) Ragan Broyles

Phone: \_\_\_\_\_ Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

### Contacts and Affiliation

(31) George Pettigrew ( ) \_\_\_\_\_  
( ) \_\_\_\_\_ ( ) \_\_\_\_\_

|               |               |                 |               |               |              |
|---------------|---------------|-----------------|---------------|---------------|--------------|
| 1-EPA         | 2-USCG        | 3-OTHER FED     | 4-STATE ENV   | 5-STATE HLT   | 6-COUNTY HLT |
| 7-CITY HLTH   | 8-HOSPITAL    | 9-LAW ENFORCE   | 10-FIRE DEPT  | 11-POISON CTR |              |
| 12-PRIV CITZ  | 13-OTHER      | 14-UNKNOWN      | 15-DOD        | 16-DOE        |              |
| 17-NOAA       | 18-OTHR STATE | 19-OTHR CNTY    | 20-OTHR CITY  | 21-INTL       |              |
| 22-CITZ GROUP | 23-ELECT. OFF | 24-PRIV. CO     | 25-NEWS MEDIA | 26-ARMY       |              |
| 27-NAVY       | 28-AIR FORCE  | 29-DEF LOG AGCY | 30-NRC        | 31-ATSDR      |              |

### Program Areas

\_ Health Assessment \_ Health Studies \_ Tox Info-profile  
\_ Worker Health \_ Petition Assessment \_ Health Surveillnc  
\_ Tox Info-Nonprofile \_ Admin \_ Emergency Response  
\_ Disease Registry \_ Subst-Spec Research \_ Other (Technical Assist)  
☒ Health Consultation \_ Exposure Registry \_ Health Education

### Narrative Summary:

The Region 6 U.S. Environmental Protection Agency (EPA) has requested that the Agency for Toxic Substances and Disease Registry (ATSDR) review and comment on a risk assessment of exposure to asbestos-containing-material (ACM) at the Westbank Asbestos Site in Louisiana (risk assessment document provided as attachment).

REVIEW OF

DRAFT  
REPORT

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To: John Martin

From: Bobbie  
Enlow

ATSDR

Comments are provided.

### General Comments

The document is an excellent attempt to quantitate a highly uncertain potential risk. This reviewer would like to commend the author on the effort. Unfortunately, the uncertainty and assumptions used may result in an estimated cancer risk that may be in error by as much as several orders of magnitude. This reviewer is not aware of any other models/approaches to address this problem.

A significant source of uncertainty that was not discussed in the document was duration, magnitude and frequency of exposure to asbestos in air in the residential yard. The cancer risk calculation (unit risk x air concentration) assumes a 24 hour a day exposure every day for a lifetime, and also assumes that the concentration of asbestos in air will remain constant. Is it likely that the air concentration of asbestos will remain constant, or will it fluctuate? Will the duration of exposure be chronic (lifetime excess cancer risk calculations assume that exposure will occur over a long time period), or will exposure likely occur for only a short period of time? How likely is it that an individual will be in the yard every time that conditions are optimum for maximum concentrations of asbestos in the air? It would be helpful if the document included some discussion on the duration, magnitude, and frequency of exposure.

### Specific Comments

In Section titled Fugitive Dust Emissions From Surface Soil;

It is stated that, "A cutoff friction velocity of 75 cm/sec is used to separate between the two classes of surface materials". Please rewrite to read, "A cutoff friction velocity of 75 cm/sec is used to separate the two classes of surface materials; unlimited reservoir is used for threshold friction velocities of less than 75 cm/sec, and limited reservoir is used for threshold friction velocities of greater than 75 cm/sec."

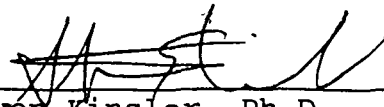
A mode soil aggregate size of 500 um is assumed; please justify/clarify why this value is used.

In Section titled Conversion From Dust Mass Air Concentration to Fibers Air Concentration;

The conversion factor of 30 ug/cu.m per PCM fiber/cc is defined in IRIS as a value used to convert from PCM measurements to TEM measurements; in the risk evaluation document, the author uses the conversion factor to convert a PM<sub>10</sub> value to a PCM value. Is this an appropriate use of this conversion factor? Please clarify.



Name: Westbank Asbestos  
LOG #: 97-2015

  
\_\_\_\_\_  
Steven Kinsler, Ph.D.

Date: January 24, 1997

CC:

PERIS

Ed Skowronski, Acting Chief, EICB

Steven Kinsler, Toxicologist, CS

George Pettigrew, Region 6 ATSDR Senior Regional Representative

Bobbie Erlwein, Region 6 ATSDR Regional Representative

Tammie McRae, CS

DRAFT DRAFT DRAFT DRAFT DRAFT DRAFT DRAFT DRAFT DRAFT DRAFT DRAFT

Jan. 10, 1997

**SUBJECT:** Risk Evaluation of dugout Asbestos Containing Material below 1 foot to the surface for the WestBank Asbestos site.

**FROM:** Ghassan Khoury, toxicologist  
Superfund Branch (6SF-L).

**TO:** Ragan Broyles, chief  
Emergency Response Section

A screening, rapid and rough assessment of risk from exposure to asbestos containing materials for WestBank Asbestos site was developed. This was done upon a request from removal section to evaluate excavations of contaminated soils from residential yards to one foot instead of the usual practice of two feet soil excavations.

A scenario of exposure was developed by assumption. A resident is assumed to have a garden in his yard. The resident will ignore the warning lining placed at the one foot depth and will dig out asbestos contaminated soil to the surface. Once on soil surface, asbestos will be weathered and carried into the air by wind erosion.

#### **Fugitive Dust Emissions From Surface Soil**

Consider source of the contamination is a residential yard (0.5 acre or 2024 m<sup>2</sup>). Residential area is assumed covered with grass. A portion of the residential yard is considered for gardening (assume 10 m X 10 m garden area). The garden area is assumed to be dug and tilled below 1 foot depth. This practice is assumed to allow asbestos contaminated soil below a depth of one foot to get to the surface at a residential yard.

The average rate of fugitive dust emissions from the soil depends on the rate at which dust is blown into the air and the average concentration of the chemical in the dust over the period of exposure.

The Soil Screening Guidance (EPA, 1996), provides a screening methodology to relate concentration of contaminant in soil with the concentration of dust particles in the air. It combines both emission from soil and dispersion of the dust particulates into the air to a hypothetical receptor.

The fugitive dust emission is based on models from Cowherd et al. (1985) developed to estimate particulate emissions due to wind erosion. For surface areas not covered by continuous vegetation the classification of surface material as either having a "limited reservoir" or an "unlimited reservoir" of erodible surface particles is determined by estimating the threshold friction velocity. A cutoff friction velocity of 75 cm/sec is used to separate between the two classes of surface materials.

The mode soil aggregate size determines how much wind is needed before dust is generated at a site. Assuming a mode soil aggregate size of 500  $\mu\text{m}$ , Figure 3-4\* is used to estimate a wind erosion threshold friction velocity of 50 cm/s. This means that the windspeed must be at least 0.5 m/s before any fugitive dusts are generated. The threshold friction velocity should be corrected to account for the presence of nonerodible elements. The Soil Screening Guidance recommends a value of 1.25. Assuming a roughness height,  $z_0$  (cm) value of 5 cm for Suburban Residential Dwellings from Figure 3-6, the equivalent 7 m threshold wind speed is found using Figure 4-1 to be

$$12.5 (62.5 \text{ cm/s}) = 7.8 \text{ m/s}$$

Since threshold friction velocity is less than 75 cm/s, the "unlimited reservoir" emission model for wind erosion is used. For estimating respirable particulate emissions from wind erosion of surfaces with an "unlimited reservoir" of erodible particles the following equation is used:

$$E_{10} = 0.036 (1 - V) (u/u_t)^3 * F(x)$$

where:

$E_{10}$  =  $\text{PM}_{10}$  emission factor, i.e., annual average  $\text{PM}_{10}$  emission rate per unit area of contaminated surface ( $\text{g/m}^2\text{-hr}$ )

$V$  = fraction of contaminated surface vegetative cover (equal 0 for bare soil)

$u$  = mean annual wind speed (m/s), taken from Table 4-1

$x = 0.886 * u_t / u$  = dimensionless ratio

$F(x)$  = function plotted in Figure 4-3

$u_t$  = threshold value of wind speed at 7 m (m/s)

From the data for Shreveport, LA in Table 4-1, the mean annual wind speed is 3.9 m/s. The function  $F(x)$  has an independent variable,  $x$ , given by:

$$x = 0.866 * (u_t / u) = 0.866 * (7.8 \text{ m/s}) / (3.9 \text{ m/s}) = 1.7$$

And from Figure 4-3.

$$F(x) = 0.6$$

Thus the annual average  $\text{PM}_{10}$  emission factor of

$$E_{10} = 0.036 (1 - 0.95) (3.9/7.8)^3 * 0.6 = 0.000135 \text{ g/hr/m}^2 = 3.75 \times 10^{-8} \text{ g/s-m}^2$$

\* All figures and tables are from USEPA (1985).

## Dispersion Model

The Soil Screening Guidance (SSG) replaced the box model with a Q/C term derived from a modeling exercise using meteorologic data from 29 locations across the United States. The Q/C term was found to be more defensible than the box model.

From Table 3 (SSG) and a source area of 0.5 acre, a Q/C value of 90.80 g/m<sup>2</sup>-s per kg/m<sup>3</sup> was chosen to be conservative in the assumptions.

Therefore a particulate emission factor of

$$3.75 \times 10^{-8} \text{ g/s-m}^2 / (90.80 \text{ g/s-m}^2 \text{ per kg/m}^3) = 4.13 \times 10^{-10} \text{ kg/m}^3$$

is calculated which corresponds to a receptor point concentration of approximately  
= 0.4 ug PM<sub>10</sub> /m<sup>3</sup>.

## Conversion From Dust Mass Air Concentration to Fibers Air Concentration

The question now is how to translate the receptor point concentration of 0.4 ug PM<sub>10</sub> particulates per cu.m. to fibers of asbestos or structures per cu.m. Site specific data to convert concentration by weight to concentrations by fibers were not available. In order to find a conversion factor between mass and fibers require a lot of research work and time. In the absence of such data the following extremely rough and highly uncertain assumptions are made:

- 1- Density of PM<sub>10</sub> respirable particulates is same as density of asbestos fibers
- 2- Asbestos contamination on soil surface is uniformly distributed with a concentration of 5% by area or volume.
- 3- Correlation between PCM fiber counts and TEM (transmission electron microscopy) mass measurements holds. A conversion factor of 30 ug/cu.m per PCM fiber/cc adopted by EPA is adopted for the site caveated with high uncertainty.

Then

$$0.4 \text{ ug PM}_{10} / \text{cu.m.} * 0.05 = 0.02 \text{ ug fibers/cu.m}$$

$$0.02 \text{ ug f/cu.m per } 30 \text{ ug/cu.m / PCM f/ml} = 0.00067 \text{ PCM f/ml}$$

Lifetime Excess Cancer Risk for general population (not including smokers)  
= unit risk \* air conc.

$$\text{Lifetime Excess Cancer Risk} = 0.23 \text{ per PCM f/ml} * 0.00067 \text{ PCM f/ml} = 1.5 \times 10^{-4}$$

This risk evaluation does not include contribution of asbestos from other nearby resident yards. It also does not include bulk material (containing 25 to 35 % asbestos) removed with soil.

## **Background Levels**

The Site Inspection Report of March 1995 documented a background air levels of  $< 0.0055$  f/cc .

EMSL Background Sampling of Sept./Oct., 1996 reported an average of approximately 0.001 PCM f/cc.

The air detection limit levels were reported at 0.0003 f/cc in the EMSL Oct. 1996 report.

## **Conclusions**

The lifetime excess cancer risk from exposure to asbestos in soil at the WestBank site was calculated to be  $1.5 \times 10^{-4}$  . This risk is associated with one residential area. Contribution from nearby residents were not included. The risk number calculated and the modeled air concentration must be viewed with caution, since the numbers were based on highly uncertain assumptions. Some of these assumptions could overestimate and some could underestimate the numbers. The modeled air concentration of 0.00067 f/cc for a site resident was below the site background average of about 0.001 f/cc.

cc: Carl Edlund  
Charles Gazda  
John Martin

## **REFERENCES**

U.S. Environmental Protection Agency, 1985. Rapid Assessment of Exposure to Particulate Emissions From Surface Contamination Sites, Office of Health and Environmental Assessment. EPA/600/8-85/002

U.S. Environmental Protection Agency, 1996. Office of Solid Waste and Emergency Response. EPA/540/R-95/128.

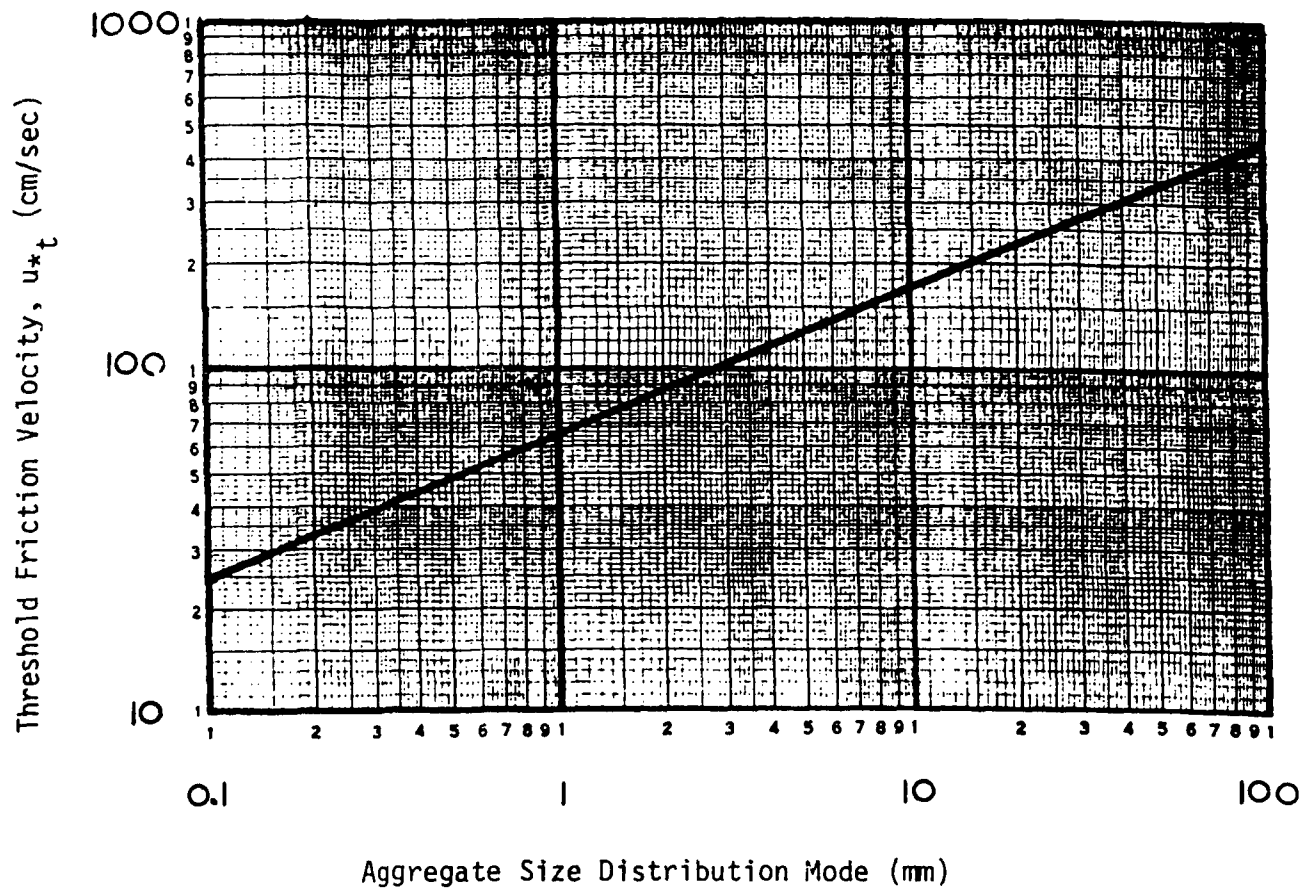


Figure 3-4. Relationship of Threshold Friction Velocity to Size Distribution Mode

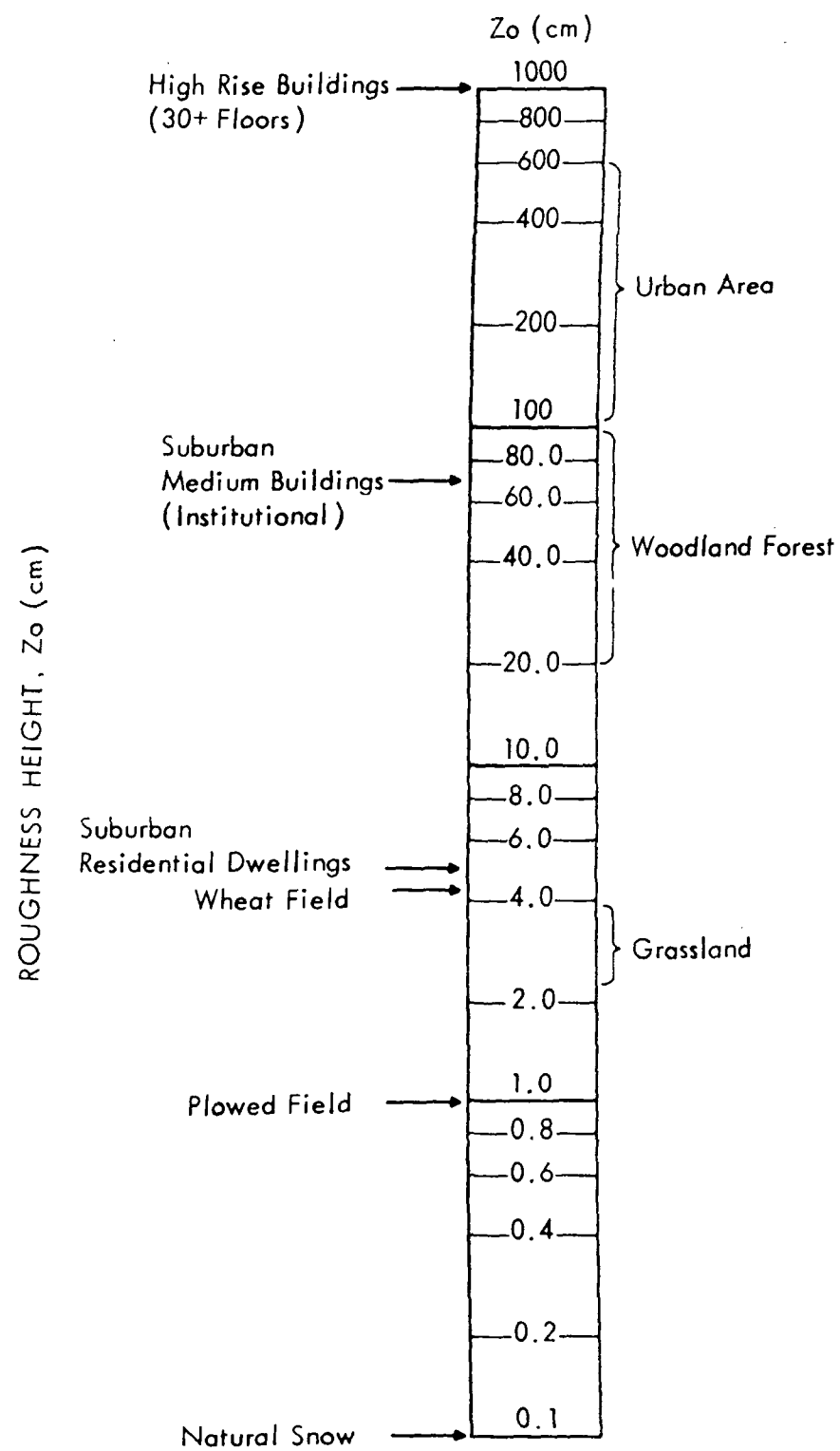


Figure 3-6. Roughness Heights for Various Surfaces (Cowherd and Guenther, 1976)



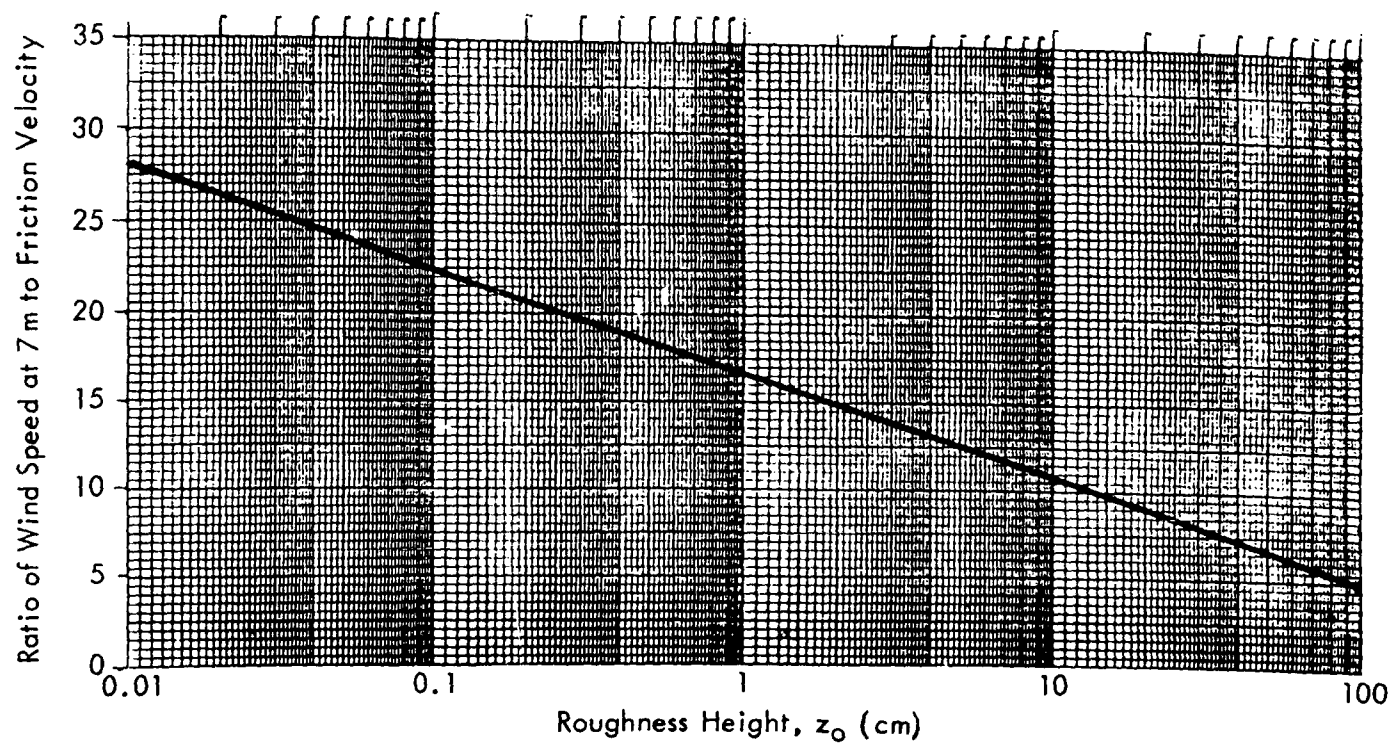


Figure 4-1. Ratio of wind speed at 7 m to friction velocity as a function of roughness height.

TABLE 4-1. FASTEST MILE<sup>a</sup> [ $u^+$ ] AND MEAN WIND SPEED<sup>b</sup> [ $u$ ]  
FOR SELECTED UNITED STATES STATIONS

| Station        | State | [ $u^+$ ]<br>(m/s) | [ $u$ ]<br>(m/s) | Station         | State | [ $u^+$ ]<br>(m/s) | [ $u$ ]<br>(m/s) |
|----------------|-------|--------------------|------------------|-----------------|-------|--------------------|------------------|
| Birmingham     | AL    | 20.8               | 3.3              | Detroit         | MI    | 21.8               | 4.6              |
| Montgomery     | AL    | 20.2               | 3.0              | Grand Rapids    | MI    | 21.6               | 4.5              |
| Tucson         | AZ    | 23.0               | 3.7              | Lansing         | MI    | 23.7               | 4.6              |
| Yuma           | AZ    | 21.8               | 3.5              | Sault St. Marie | MI    | 21.6               | 4.3              |
| Fort Smith     | AR    | 20.8               | 3.4              | Duluth          | MN    | 22.8               | 5.1              |
| Little Rock    | AR    | 20.9               | 3.6              | Minneapolis     | MN    | 22.0               | 4.7              |
| Fresno         | CA    | 15.4               | 2.8              | Jackson         | MS    | 20.5               | 3.4              |
| Red Bluff      | CA    | 23.3               | 3.9              | Columbia        | MO    | 22.4               | 4.4              |
| Sacramento     | CA    | 20.6               | 3.7              | Kansas City     | MO    | 22.6               | 4.6              |
| San Diego      | CA    | 15.4               | 3.0              | St. Louis       | MO    | 21.2               | 4.2              |
| Denver         | CO    | 22.0               | 4.1              | Springfield     | MO    | 22.4               | 5.0              |
| Grand Junction | CO    | 23.6               | 3.6              | Billings        | MT    | 26.6               | 5.1              |
| Pueblo         | CO    | 28.1               | 3.9              | Great Falls     | MT    | 26.4               | 5.9              |
| Hartford       | CT    | 20.2               | 4.0              | Havre           | MT    | 25.9               | 4.5              |
| Washington     | DC    | 21.6               | 3.4              | Helena          | MT    | 24.7               | 3.5              |
| Jacksonville   | FL    | 21.7               | 3.8              | Missoula        | MT    | 21.6               | 2.7              |
| Tampa          | FL    | 22.2               | 3.9              | North Platte    | NE    | 27.7               | 4.6              |
| Atlanta        | GA    | 21.2               | 4.1              | Omaha           | NE    | 24.6               | 4.8              |
| Macon          | GA    | 20.1               | 3.5              | Valentine       | NE    | 27.1               | 4.8              |
| Savannah       | GA    | 21.3               | 3.6              | Ely             | NV    | 23.6               | 4.7              |
| Boise          | ID    | 21.4               | 4.0              | Las Vegas       | NV    | 24.4               | 4.0              |
| Pocatello      | ID    | 23.8               | 4.6              | Reno            | NV    | 25.2               | 2.9              |
| Chicago        | IL    | 21.0               | 4.6              | Winnemucca      | NV    | 22.4               | 3.5              |
| Moline         | IL    | 24.5               | 4.4              | Concord         | NH    | 19.2               | 3.0              |
| Peoria         | IL    | 23.2               | 4.6              | Albuquerque     | NM    | 25.6               | 4.0              |
| Springfield    | IL    | 24.2               | 5.1              | Roswell         | NM    | 26.0               | 4.1              |
| Evansville     | IN    | 20.9               | 3.7              | Albany          | NY    | 21.4               | 4.0              |
| Fort Wayne     | IN    | 23.7               | 4.6              | Binghamton      | NY    | 22.0               | 4.6              |
| Indianapolis   | IN    | 24.8               | 4.3              | Buffalo         | NY    | 24.1               | 5.5              |
| Burlington     | IA    | 25.0               | 4.6              | New York        | NY    | 22.5               | 5.5              |
| Des Moines     | IA    | 25.8               | 5.0              | Rochester       | NY    | 23.9               | 4.3              |
| Sioux City     | IA    | 25.9               | 4.9              | Syracuse        | NY    | 22.5               | 4.4              |
| Concordia      | KS    | 25.7               | 5.4              | Cape Hatteros   | NC    | 25.9               | 5.1              |
| Dodge City     | KS    | 27.1               | 6.3              | Charlotte       | NC    | 20.0               | 3.4              |
| Topeka         | KS    | 24.4               | 4.6              | Greensboro      | NC    | 18.9               | 3.4              |
| Wichita        | KS    | 26.0               | 5.6              | Wilmington      | NC    | 22.3               | 4.0              |
| Louisville     | KY    | 22.0               | 3.8              | Bismarck        | ND    | 26.1               | 4.7              |
| Shreveport     | LA    | 19.9               | 3.9              | Fargo           | ND    | 26.6               | 5.7              |
| Portland       | ME    | 21.7               | 3.9              | Cleveland       | OH    | 23.6               | 4.8              |
| Baltimore      | MD    | 25.0               | 4.2              | Columbus        | OH    | 22.1               | 3.9              |
| Boston         | MA    | 25.2               | 5.6              | Dayton          | OH    | 24.0               | 4.6              |

TABLE 4-1 (concluded)

| Station        | State | $[u^+]$<br>(m/s) | $[u]$<br>(m/s) | Station        | State | $[u^+]$<br>(m/s) | $[u]$<br>(m/s) |
|----------------|-------|------------------|----------------|----------------|-------|------------------|----------------|
| Toledo         | OH    | 22.7             | 4.2            | Dallas         | TX    | 21.9             | 4.9            |
| Oklahoma City  | OK    | 24.1             | 5.7            | El Paso        | TX    | 24.8             | 4.2            |
| Tulsa          | OK    | 21.4             | 4.7            | Port Arthur    | TX    | 23.7             | 4.5            |
| Portland       | OR    | 23.5             | 3.5            | San Antonio    | TX    | 21.0             | 4.2            |
| Harrisburg     | PA    | 20.4             | 3.4            | Salt Lake City | UT    | 22.6             | 3.9            |
| Philadelphia   | PA    | 22.1             | 4.3            | Burlington     | VT    | 20.4             | 3.9            |
| Pittsburgh     | PA    | 21.6             | 4.2            | Lynchburg      | VA    | 18.3             | 3.5            |
| Scranton       | PA    | 19.9             | 3.8            | Norfolk        | VA    | 21.8             | 4.7            |
| Huron          | SD    | 27.4             | 5.3            | Richmond       | VA    | 18.9             | 3.4            |
| Rapid City     | SD    | 27.3             | 5.0            | Quillayute     | WA    | 16.3             | 3.0            |
| Chattanooga    | TN    | 21.4             | 2.8            | Seattle        | WA    | 18.7             | 4.1            |
| Knoxville      | TN    | 21.8             | 3.3            | Spokane        | WA    | 21.4             | 3.9            |
| Memphis        | TN    | 20.3             | 4.1            | Green Bay      | WI    | 25.3             | 4.6            |
| Nashville      | TN    | 20.9             | 3.6            | Madison        | WI    | 24.9             | 4.4            |
| Abilene        | TX    | 24.4             | 5.4            | Milwaukee      | WI    | 24.0             | 5.3            |
| Amarillo       | TX    | 27.3             | 6.1            | Cheyenne       | WY    | 27.0             | 5.9            |
| Austin         | TX    | 20.2             | 4.2            | Lander         | WY    | 27.4             | 3.1            |
| Brownsville    | TX    | 19.5             | 5.3            | Sheridan       | WY    | 27.5             | 3.6            |
| Corpus Christi | TX    | 24.4             | 5.4            | Elkins         | WV    | 22.8             | 2.8            |

<sup>a</sup> Data taken from Extreme Wind Speeds at 129 Stations in the Contiguous United States. Simiu, E., Filliben, J. J., and M. J. Changery. NBS Building Science Series 118. U.S. Department of Commerce, National Bureau of Standards, 1979.

<sup>b</sup> Data taken from Local Climatological Data - Annual Summaries for 1977. U.S. Department of Commerce, National Oceanic and Atmospheric Administration/Environmental Data Service/National Climatic Data Center.

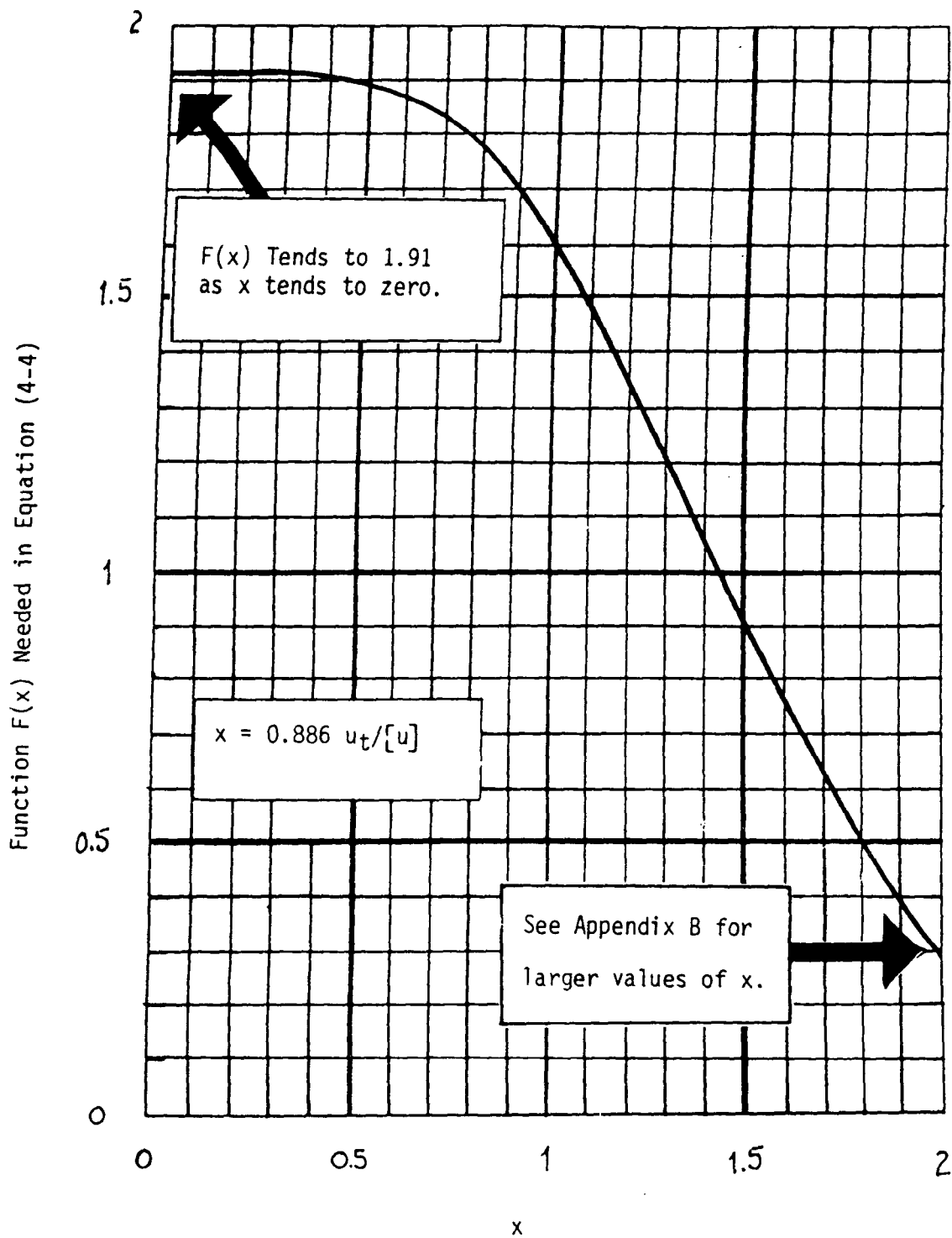


Figure 4-3. Graph of Function  $F(X)$  Needed to Estimate Unlimited Erosion

Name: Westbank Asbestos  
EICB Log #: 97-2007

ROUTING:  
Ed Skowronski  
CS File

### ATSDR Record of Activity

UID #: TYM4 Date: 01-23-97 Time: 2:00 am \_ pm x

Site Name: Westbank Asbestos Site City: Marrero Cnty: Jefferson Parish  
State: LA

CERCLIS #: \_\_\_\_\_ Cost Recovery #: 60Y6 Region: 6

Site Status (1) \_ NPL x Non-NPL \_ RCRA \_ Non-Site specific Federal  
(2) \_ Emergency Response \_ Remedial x Removal \_ Other: \_\_\_\_\_

#### Activities

\_ Incoming Call \_ Public Meeting' x Health Consult' \_ Site Visit'  
\_ Outgoing Call \_ Other Meeting \_ Health Referral x Info Provided  
\_ Conference Call \_ Data Review \_ Written Response \_ Training  
\_ Incoming Mail \_ Other: \_\_\_\_\_

Requestor and Affiliation: (2) John Martin, Sr. OSC-EPA Region 6,  
Site Response Section  
Phone: 214/665-6748; LA Site 504/363-0037, LA FAX 504/363-4732  
Address: 1445 Ross Avenue, Mail Code 6SF-R2  
City: Dallas State: TX Zip Code: 75202-2733

#### Contacts and Affiliation

(1) Bobbie Erlwein, Region VI Rep. ( ) \_\_\_\_\_  
( ) \_\_\_\_\_ ( ) \_\_\_\_\_

1=ATSDR 2=EPA 3=Other Fed 4=State Health 5=State Environment  
6=Local Health 7=Elected Official 8=Private Co 9=Private Citizen  
10=News Media 11=Citizen Group 12=USCG 13=Natl Respns Cntr 14=Other

#### Program Areas

\_ Health Assessment \_ Health Studies \_ Tox Info-profile \_ Worker Hlth  
\_ Petition Assessment \_ Health Surveillnc \_ Tox Info-Nonprofil \_ Admin  
\_ Emergency Response \_ Disease Registry \_ Subst-Spec Resch \_ Other  
x Health Consultation \_ Exposr Registry \_ Health Education

#### Narrative Summary:

As part of the ongoing EPA Region VI removal activities at the Westbank Asbestos Site in Marrero, Louisiana, ATSDR was requested to comment on proposed removal depth of asbestos-containing-material (ACM) at residential properties and proposed removal activities at specific properties (Site #268, #289, #302, #399, and #455) and determine if these proposals and activities are protective of public health. Background information is provided in Attachment 1, ATSDR Record of Activity (AROA), Exposure Investigation Consultation Branch

• Name: Westbank Asbestos  
EICB Log #: 97-2007

ROUTING:  
Ed Skowronski  
CS File

Due to the extent and nature of the ACM at the Westbank Asbestos site (greater than 900 properties contaminated with ACM), the volume of ACM waste material to be excavated to a maximum depth of 2 feet in residential soil greatly exceeded projections (as proposed by EPA's September 23, 1996 Action Memorandum). Therefore, EPA has proposed to excavate the ACM in residential soils to a maximum depth of 1 foot below the surface. A geotextile liner (warning barrier) will be placed over the ACM and clean fill material will be backfilled over the geotextile liner. EPA will notify the property owner if waste had to be left below the surface (1 foot depth). The State of Louisiana Department of Environmental Development Control (to include the local/parish utility officials) will also be notified by EPA that ACM is below the surface at this location. EPA will pursue institutional controls to the extent/limit of their authority and will encourage appropriate local and state agencies to pursue similar actions under their respective authorities to notify future property owners that ACM is below the surface at this property.

EPA Region VI proposed the following removal activities at the following specific residential properties (See Attachment 2; site maps):

1. **Site #268:** Area D (see attachment 2); on this property ACM was identified under 5 inches of clay cover and vegetation. EPA proposes to leave the ACM in place and institutionalize the subsurface location. EPA will notify the property owner that waste had to be left below the surface. The State of Louisiana Department of Environmental Development Control (to include the local/parish utility officials) will also be notified by EPA that ACM is below the surface at this location. EPA will pursue institutional controls to the extent/limit of their authority and will encourage appropriate local and state agencies to pursue similar actions under their respective authorities to notify future property owners that ACM is below the surface at this property.
2. **Site #289:** ACM has been identified at the surface and subsurface in the backyard at this property. Due to the extent of ACM below the surface at this property, EPA proposes to excavate the ACM to a maximum depth of 4 inches. A geotextile liner (warning barrier) will be placed over the ACM and clean fill material will be placed over the geotextile liner. Residential properties with ACM waste left in place below the surface will be subject to the same parameters (notification of property owner, utility authorities, notification system for future property owners, etc.) as mentioned above.
3. **Site #302:** The ACM identified on this property in Grid 3 (see attachment 2) has been excavated to a maximum depth of 6 inches. EPA proposes to place a geotextile liner over the ACM and

backfill with clean soil and sod. Residential properties with ACM waste left in place below the surface will be subject to the same parameters (notification of property owner, utility authorities, notification system for future property owners, etc.) as mentioned above.

4. Site #399: This property has two small yard areas as indicated on the site diagram in attachment 2. These areas were sampled and included in a composite sample of the entire property. The sample results indicated that asbestos was less than 3% (see attachment 3). Area B of the property was excavated to a maximum depth of 6 inches. EPA proposes to geotextile line these areas (A and B) and backfill with sand and sod. Residential properties with ACM waste left in place below the surface will be subject to the same parameters (notification of property owner, utility authorities, notification system for future property owners, etc.) as mentioned above.
5. Site #455: ACM has been identified at the surface and subsurface in driveway at this property. Due to the extent of ACM below the surface in the driveway, EPA proposes to excavate the ACM to a maximum depth of 6 inches. A geotextile liner (warning barrier) will be placed over the ACM and clean fill material will be placed over the geotextile liner. Residential properties with ACM waste left in place below the surface will be subject to the same parameters (notification of property owner, utility authorities, notification system for future property owners, etc.) as mentioned above.

Action Required/Recommendations/Info Provided:


Based on the information provided, ATSDR concurs with EPA's proposed removal activities as stated above at the Westbank sites. In addition, ATSDR has the following recommendations:

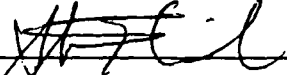
1. In addition to the notification system EPA proposes if ACM waste is left in place below the surface at residential properties, ATSDR recommends that the property owner be notified not to dig in the area of the yard where ACM is below the surface. If the ACM material is brought to the surface through gardening, building on the property, or any type of excavation activities it may present a future health concern.
2. EPA should continue to conduct air sampling and dust suppression techniques during removal activities to ensure that the removal activities do not pose a health threat to the community.

ATSDR will be available to assist EPA Region VI with further evaluation and/or review of site by site removals activities, sampling plans, sampling data, etc., as they become available.

Name: Westbank Asbestos  
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Signature: Tammie McRae, M.S.  Date: 1/24/97

Concurrence: Steven Kinsler, Ph.D.  Date: 1/24/97

Enclosures: Yes ( ) No (x); MIS entered: Yes ( ) No ( )

cc: EICB File  
Ed Skowronski  
Bobbie Erlwein, Region VI Representative  
PERIS  
Tina Forrester, DHAC/TPO-LA  
Steven Kinsler, DHAC/EICB/CS



Name: Westbank Asbestos  
EICB Log #: 97-2007

**ROUTING:**  
Ed Skowronski  
CS File

**ATTACHMENT 1**

**ATSDR AROA EICB Log#97-1032  
Westbank Sites**

Name: Westbank Asbestos  
EICB Log #: 97-1032

ROUTING:  
Ed Skowronski

### ATSDR Record of Activity

UID #: TYM4 Date: 11-21-96 Time: 11:30 am ☒ pm ☐

Site Name: Westbank Asbestos Site City: Marrero Cnty: Jefferson Parish  
State: LA

CERCLIS #: \_\_\_\_\_ Cost Recovery #: 60Y6 Region: 6

Site Status (1) ☐ NPL ☒ Non-NPL ☐ RCRA ☐ Non-Site specific ☐ Federal  
(2) ☐ Emergency Response ☐ Remedial ☒ Removal ☐ Other

#### Activities

|   |   |  |   |
|---|---|--|---|
| <input type="checkbox"/> Incoming Call              | <input type="checkbox"/> Public Meeting | <input checked="" type="checkbox"/> Health Consult | <input type="checkbox"/> Site Visit               |
| <input type="checkbox"/> Outgoing Call              | <input type="checkbox"/> Other Meeting  | <input type="checkbox"/> Health Referral           | <input checked="" type="checkbox"/> Info Provided |
| <input checked="" type="checkbox"/> Conference Call | <input type="checkbox"/> Data Review    | <input type="checkbox"/> Written Response          | <input type="checkbox"/> Training                 |
| <input type="checkbox"/> Incoming Mail              | <input type="checkbox"/> Other:         |  |   |

Requestor and Affiliation: (2) John Martin, Sr. OSC-EPA Region 6,  
Site Response Section

Phone: 214/665-8398

Address: 1445 Ross Avenue, Mail Code 6SF-R2

City: Dallas State: TX Zip Code: 75202-2733

#### Contacts and Affiliation

|   |  |
|---|--|
| (1) <u>Bobbie Erlwein, Region VI Rep.</u> | (4) <u>Robert Starszak</u>             |
| (4) <u>Dr. Mathison, M.D.</u>             | (4) <u>Blaise Mangano</u>              |
| (2) <u>Traci DeLynn Bryant, OSC</u>       | (2) <u>Troy Naquin, EPA Contractor</u> |

1=ATSDR      2=EPA      3=Other Fed      4=State Health      5=State  
Environment

6=Local Health      7=Elected Official      8=Private Co      9=Private Citizen  
10=News Media      11=Citizen Group      12=USCG      13=Natl Resps Cntr      14=Other

#### Program Areas

|   |  |   |                                      |
|---|--|---|--------------------------------------|
| <input type="checkbox"/> Health Assessment              | <input type="checkbox"/> Health Studies    | <input type="checkbox"/> Tox Info-profile   | <input type="checkbox"/> Worker Hlth |
| <input type="checkbox"/> Petition Assessment            | <input type="checkbox"/> Health Surveillnc | <input type="checkbox"/> Tox Info-Nonprofil | <input type="checkbox"/> Admin       |
| <input type="checkbox"/> Emergency Response             | <input type="checkbox"/> Disease Registry  | <input type="checkbox"/> Subst-Spec Resch   | <input type="checkbox"/> Other       |
| <input checked="" type="checkbox"/> Health Consultation | <input type="checkbox"/> Exposr Registry   | <input type="checkbox"/> Health Education   |                                      |

#### Narrative Summary:

EPA Region VI requested that ATSDR comment on proposed removal activities at the Westbank Asbestos Site in Marrero, Louisiana and determine if these activities are protective of public health. The site includes the Jefferson Parish communities of Bridge City, Westwego, Marrero, Harvey, and Gretna, and the Orleans Parish community of Algiers. Currently, EPA Region VI is conducting a time-critical removal action at these sites for Asbestos Containing Material (ACM) used in an aggregate form (similar to asphalt) to

Name: Westbank Asbestos  
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pave driveways, walkways, and servitudes (e.g., easements between sidewalks and roads) at residential properties, schools, daycare facilities, parks, etc. On August 21, 1996, a public health consultation was written for this site and is provided as background information [Attachment 1].

Presently, 893 properties (includes: commercial, residential and high access areas (HAAs) such as schools, daycare facilities, parks, etc.) have been identified as being contaminated with ACM and 31 properties have undergone removals. Priority of removals are based on whether the property is a HAA and whether the ACM on the surface of the ground is deteriorating. The properties identified as being contaminated with ACM were screened by visual inspection, sampling and analysis, and evaluation of historical aerial photographs along with interviews with local officials and residential property owners.

On November 20, 1996, a site visit was conducted by representatives from ATSDR headquarters, ATSDR Region VI, Louisiana State Health Department, and EPA Region VI. The site visit was conducted to observe current site conditions and removal activities. The site visit also provided valuable information needed to assist the health agencies in providing public health recommendations to the community and EPA during removal activities. During the site visit, four removal crews were observed at residential properties and a ballfield. After January 1, 1997, nine crews will join the removal activities at Westbank.

At each property undergoing removal activities the following practices were observed: dust suppression techniques (fine mist of water over entire excavation); sealing of residential windows and doors with plastic; air monitoring (three air stations: residence; upwind and downwind of excavation activities); worker personnel air monitoring; trucks lined with heavy plastic to prevent cross contamination (heavy plastic is also used to cover the ACM before it is carried to the designated/approved landfill); and a decontamination zone for the removal workers.

Also during the site visit, ATSDR and the Louisiana State Health Department met with EPA Region VI to discuss the following questions concerning removal activities at residential properties and HAAs:

1. Removal of ACM in driveways at residential properties and HAAs: The depth of ACM has been determined to be greater than 2 feet in some cases. EPA proposed removing visible ACM to a maximum depth of 6 inches below the surface in driveways. If post sampling results are greater than 1% asbestos, then a geotextile liner (warning barrier) will be placed over the ACM, and covered with cement. EPA will notify the property owner if waste (asbestos greater than 1 %) is left in place. If post excavation samples are less than 1% asbestos, then no geotextile liner will be installed. EPA will pursue institutional controls to the extent/limit of their authority and will encourage appropriate local and state agencies to pursue similar actions under their respective authorities to notify future property owners that ACM

is below the surface at this property.

2. Removal of ACM in soils at residential properties and HAAs: Depth of ACM may be 2 feet or greater. EPA proposed removing visible ACM to a maximum depth of 2 feet at residential properties. If all the ACM is removed in the soils, the excavation will be backfilled with clean soil. If ACM is left in place (asbestos greater than 1%) in the soils below 2 feet, a geotextile liner (warning barrier) will be placed over the ACM and clean soil will be backfilled over the geotextile liner. EPA will notify the property owner if waste had to be left below the surface. The State of Louisiana Department of Environmental Development Control (to include the local/parish utility officials) will also be notified by EPA that ACM is below the surface at this location. EPA will pursue institutional controls to the extent/limit of their authority and will encourage appropriate local and state agencies to pursue similar actions under their respective authorities to notify future property owners that ACM is below the surface at this property.

If in the course of excavation a horizontal subsurface vein of ACM is identified, EPA will remove (i.e., chase) the visible ACM to a maximum depth of 2 feet and will restore property as discussed above with a warning barrier. Each property that excavation activities occur will be evaluated by the health agencies and EPA on a site by site basis.

3. Removal of ACM over servitudes (easements: utility/water/sewer lines or pipes) at contaminated properties: EPA proposed removing the ACM subsurface to approximately one foot or the top of the utility line (ACM will not be removed if the removal activities compromise the integrity of the utility lines or pipes), placing a geotextile liner (warning barrier) over the pipe and remaining ACM, 6 inches of sand over the geotextile liner, and 6 inches of gravel over the sand. EPA will notify the State of Louisiana Department of Environmental Development Control (including local/parish utility officials) of the locations where waste had to be left in place below the surface around utility/water/sewer lines or pipes. EPA will pursue institutional controls to the extent/limit of their authority and will encourage appropriate local and state agencies to pursue similar actions under their respective authorities to notify future property owners and the utility authorities that ACM is below the surface at this property.
4. If ACM is determined to be under sidewalks, roads, or foundations of homes during excavations, EPA will leave ACM in place and notify property owners and the State of Louisiana Department of Environmental Development Control (to include notifying local/parish utility officials) of the locations waste had to be left in place below the surface. Waste had to be left in place below the surface because excavations would compromise the integrity of these structures. EPA will pursue institutional controls to the extent/limit of their authority and will encourage appropriate local and state agencies to

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pursue similar actions under their respective authorities to notify future property owners that ACM is below the surface at this property.

5. Sample Analyses: Soil samples are being analyzed using PLM (polarized light microscopy) analysis. Air samples are also being analyzed using PLM. Initially 18 air samples are being evaluated using TEM (transmission electron microscopy) methodology as confirmation samples.

In addition to the above discussion during the site visit, the health agencies and EPA observed under one home (the home was raised approximately a foot above ground surface on concrete blocks) ACM that was highly deteriorated (gray sand to dust appearance). The health agencies and EPA discussed the need to encapsulate (as an interim measure or any other type of solution to prevent exposure to the ACM) the deteriorating ACM material at this home and any other home where these conditions exist, until a permanent remedy can be identified. The health agencies also recognized that there is a need to air sample under a few homes that contain ACM in this deteriorating condition. The air data would allow the health agencies to provide public health recommendations to residents living in homes where similar conditions exist.

Action Required/Recommendations/Info Provided:

Based on the information provided, ATSDR and the Louisiana State Department of Health concurs with EPA's proposed removal activities as stated above at the Westbank sites. In addition, the health agencies have made the following recommendations:

1. Encapsulate (as an interim measure) the deteriorating ACM under homes that are built above ground level that allow easy access to children playing or to utility workers to prevent exposure to the ACM. A permanent remedy to ensure future exposures to the ACM does not occur should be implemented under these homes.
2. Conduct air sampling under a few homes (that are raised above ground level and have adequate crawl spaces which allow easy access to children playing or to utility workers) that are contaminated with deteriorating ACM. The air data obtained at these homes will allow the health agencies to communicate with the home owners about their health concerns.

ATSDR will be available to assist EPA Region VI with further evaluation and/or review of site by site removals activities, sampling plans, sampling data, etc., as they become available.

Signature: Tammie McRae, M.S. Date: \_\_\_\_\_

Concurrence: Steven Kinsler, Ph.D. Date: \_\_\_\_\_

Name: Westbank Asbestos  
EICB Log #: 97-1032

**ROUTING:**  
Ed Skowronski

Enclosures: Yes ( ) No (x); MIS entered: Yes ( ) No ( )

cc: EICB File  
Ed Skowronski  
Bobbie Erlwein, Region VI Representative  
PERIS  
Tina Forrester, DHAC/TPO-LA  
Steven Kinsler, EICB/CS

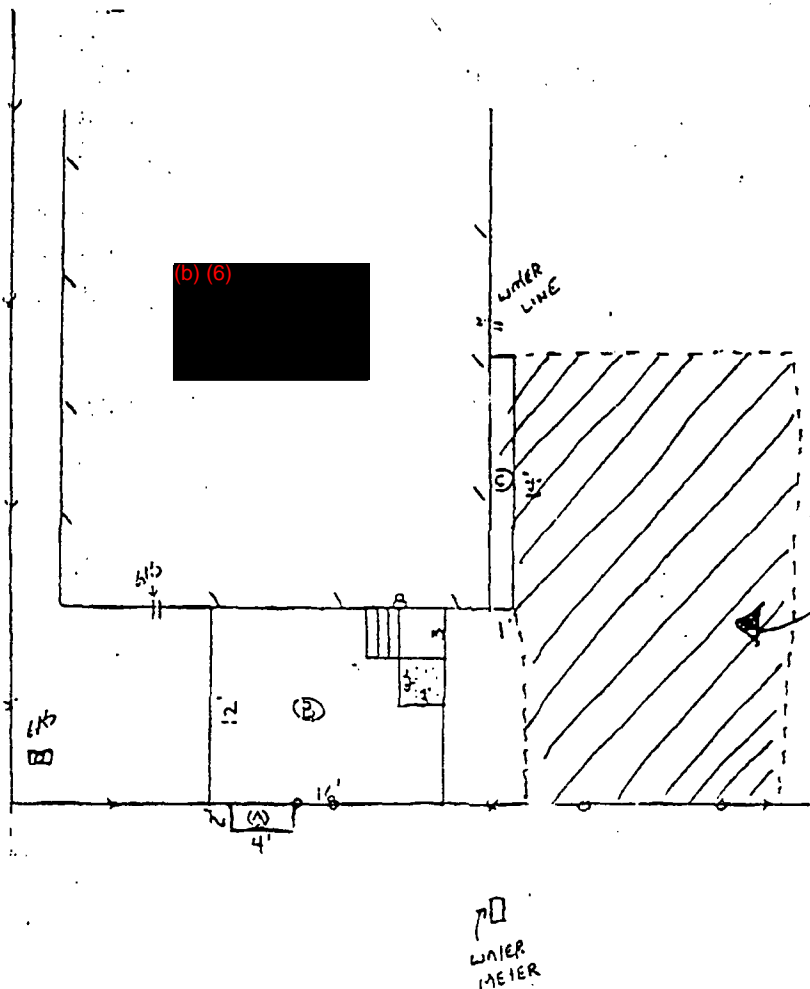
Name: Westbank Asbestos  
EICB Log #: 97-2007

**ROUTING:**  
Ed Skowronski  
CS File

**ATTACHMENT 2**

**Site Maps**

By PM Date 1-9-97 Subject PRE REMOVAL SITE # 268 Sheet No.      of       
Chkd. By      Date      Proj. No.     



(A) = SOD  
(B) = CONCRETE  
(C) = SOD  
these areas have been excavated

(D) this area was found after excavation & has at least 5" of clay cover & vegetation

(b) (6)



1/14/97

(b) (6)

Site # 289

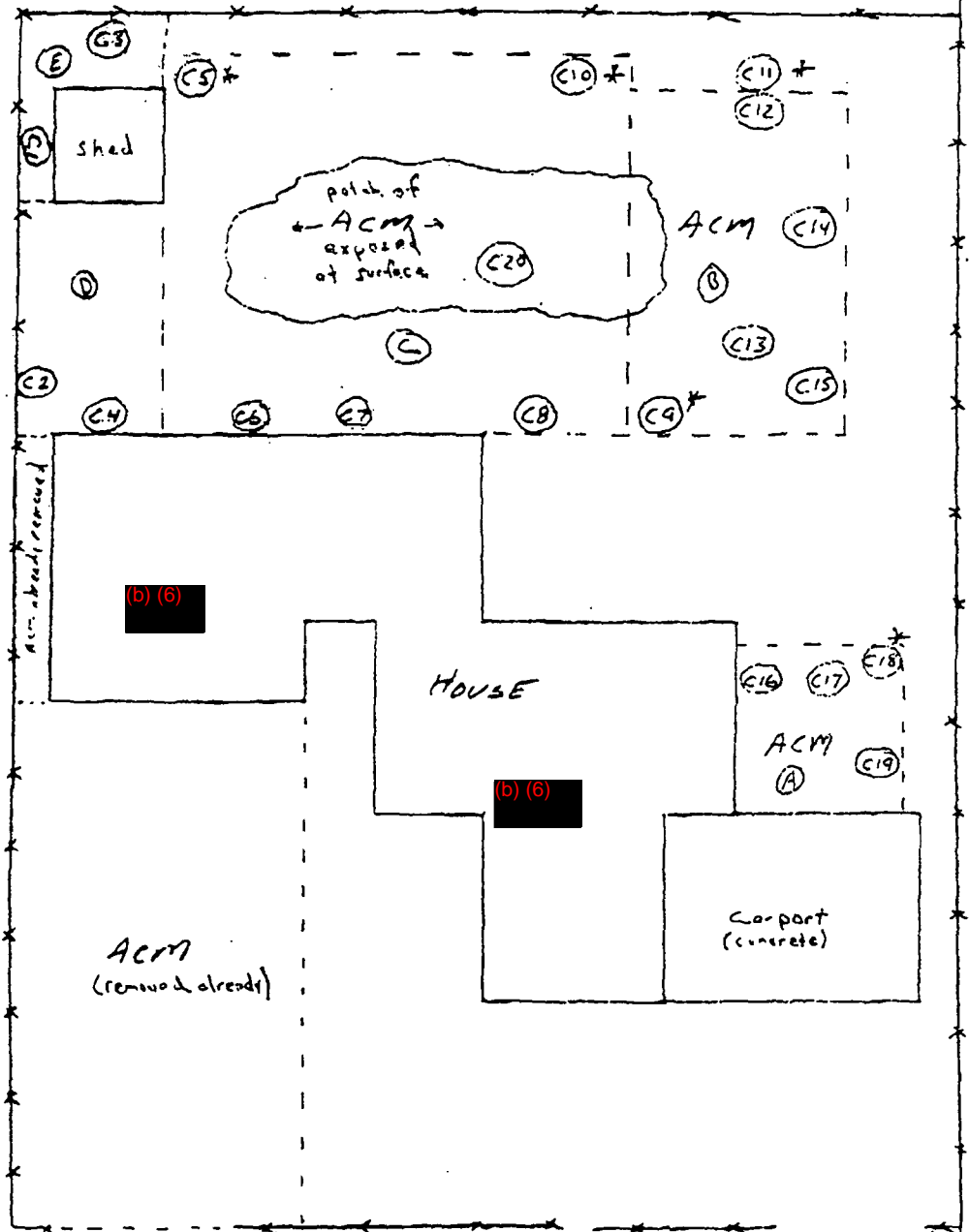
## Site Sketch

| CORE  | 1 | 2 | 3 | 4 | 5   | 6 | 7   | 8 | 9   | 10  | 11  | 12 | 13  | 14 | 15  | 16 | 17 | 18 | 19 | 20 |
|-------|---|---|---|---|-----|---|-----|---|-----|-----|-----|----|-----|----|-----|----|----|----|----|----|
| COVER | 0 | 0 | 0 | 0 | 4   | 1 | 1/2 | 1 | 4   | 4   | 4   | 1  | 1/2 | 2  | 3   | 2  | 2  | 4  | 2  | 0  |
| ACM   |   |   |   |   | 1/2 |   |     |   | 1/2 | 1/2 | 1/2 |    |     |    | 1/2 |    |    |    | 4  |    |

(inches) ( $\phi$  is surface area)  
 (thickness of ACM in inches)

\* \* FENCE

--- ACM Boundary  
 (as Marked)



Grid A B C D E  
 Area 13x22 12x21 27x30 12x21 7x45

No. 5505

Engineer's Computation Pad



WESTBANK ACM REMOVAL PROJECT  
SAMPLE ANALYSIS CONFIRMATION  
USEPA START TEAM

FYI:

SITE# 302

ADDRESS: (b) (6)

Marrero, LA 70072

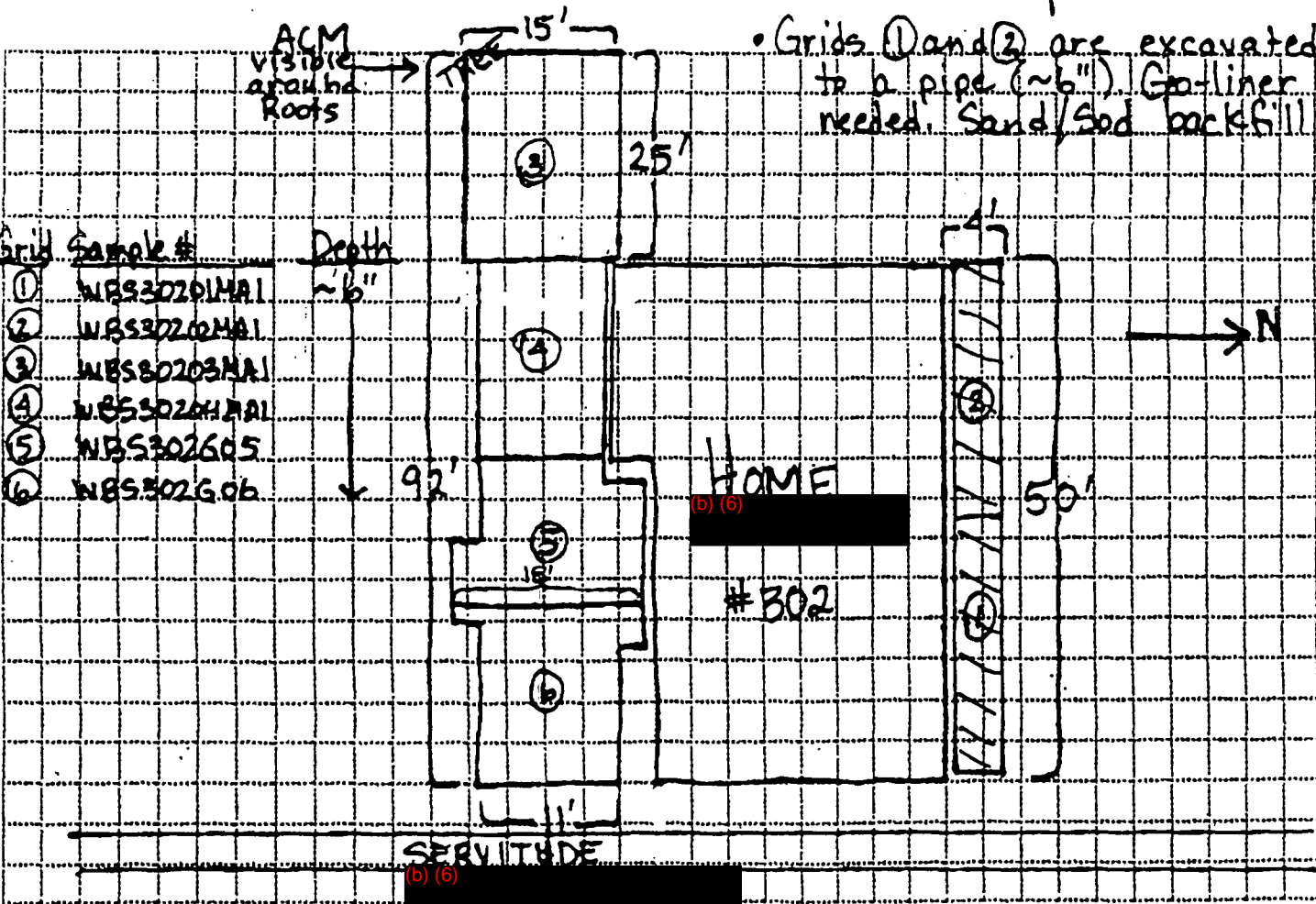
THE SAMPLE ANALYSIS RESULTS FOR THE ABOVE REFERENCED SITE WERE RECEIVED AND WERE EVALUATED BY THE USEPA START TEAM ON 12-17-96 and 01-10-97

BASED ON AN EVALUATION OF THE ANALYTICAL DATA, WE RECOMMEND THE FOLLOWING ACTION:

GRID #: 1 2 3 4 5 6 7 8

A. PROCEED WITH RESTORATION: ✓ ✓ — ✓ ✓ ✓ — —

B. FURTHER ACTION NECESSARY: ✓ ✓ ✓ — — — — —



PROJECT Westbank Asbestos SiteSHEET NO. 1

OF

ITEM

Site #399/398

BY Barbara Shaw

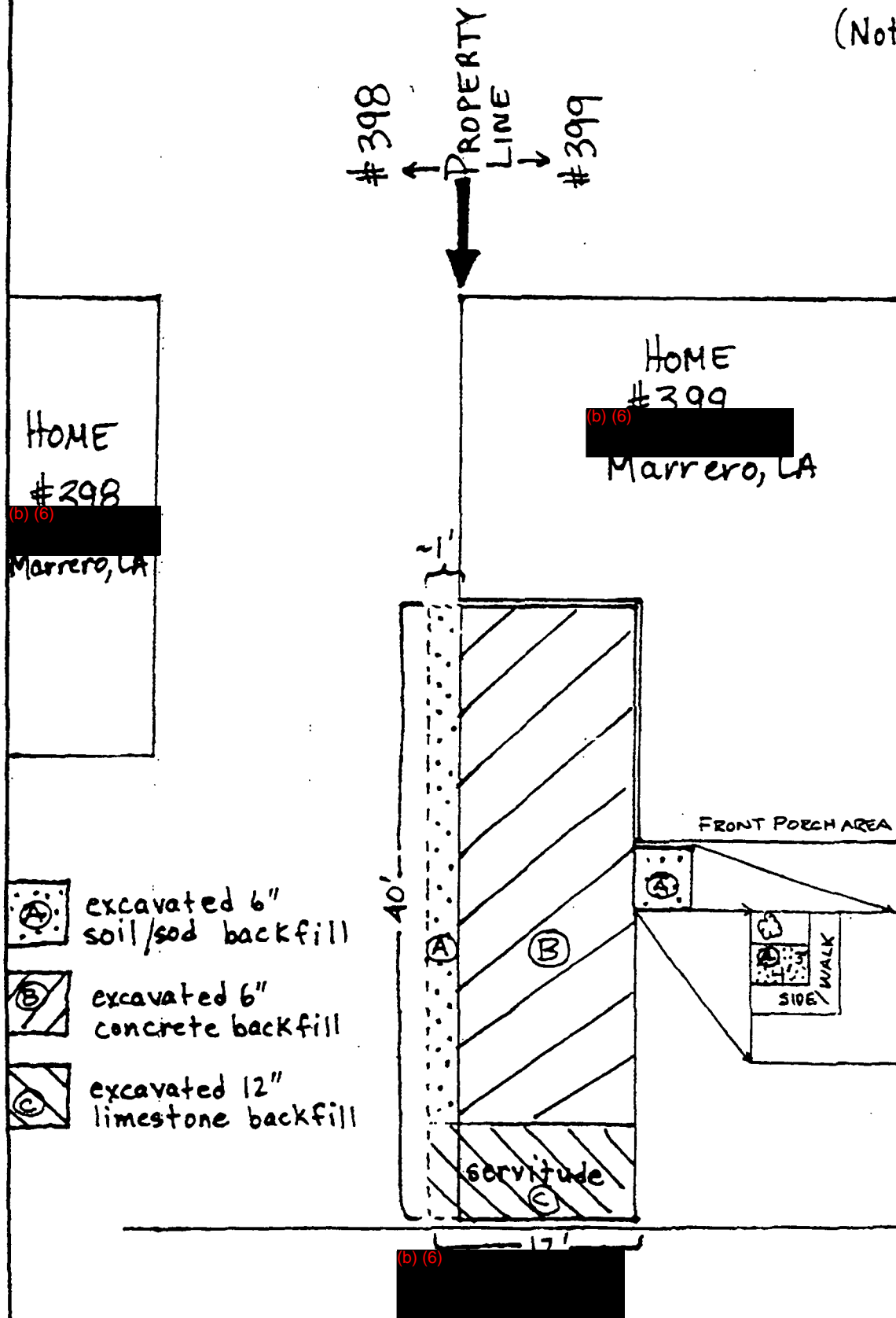
DATE

1-9-97

CHKD. BY

DATE

(Not to Scale)



Note: Entire area (40'x12') is Sample WBS399G01 (see results)



Site # 455

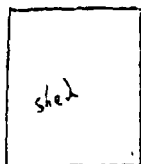
(b) (6)

Manero

1/10/97

Tracy M. Anguini

Site Sketch

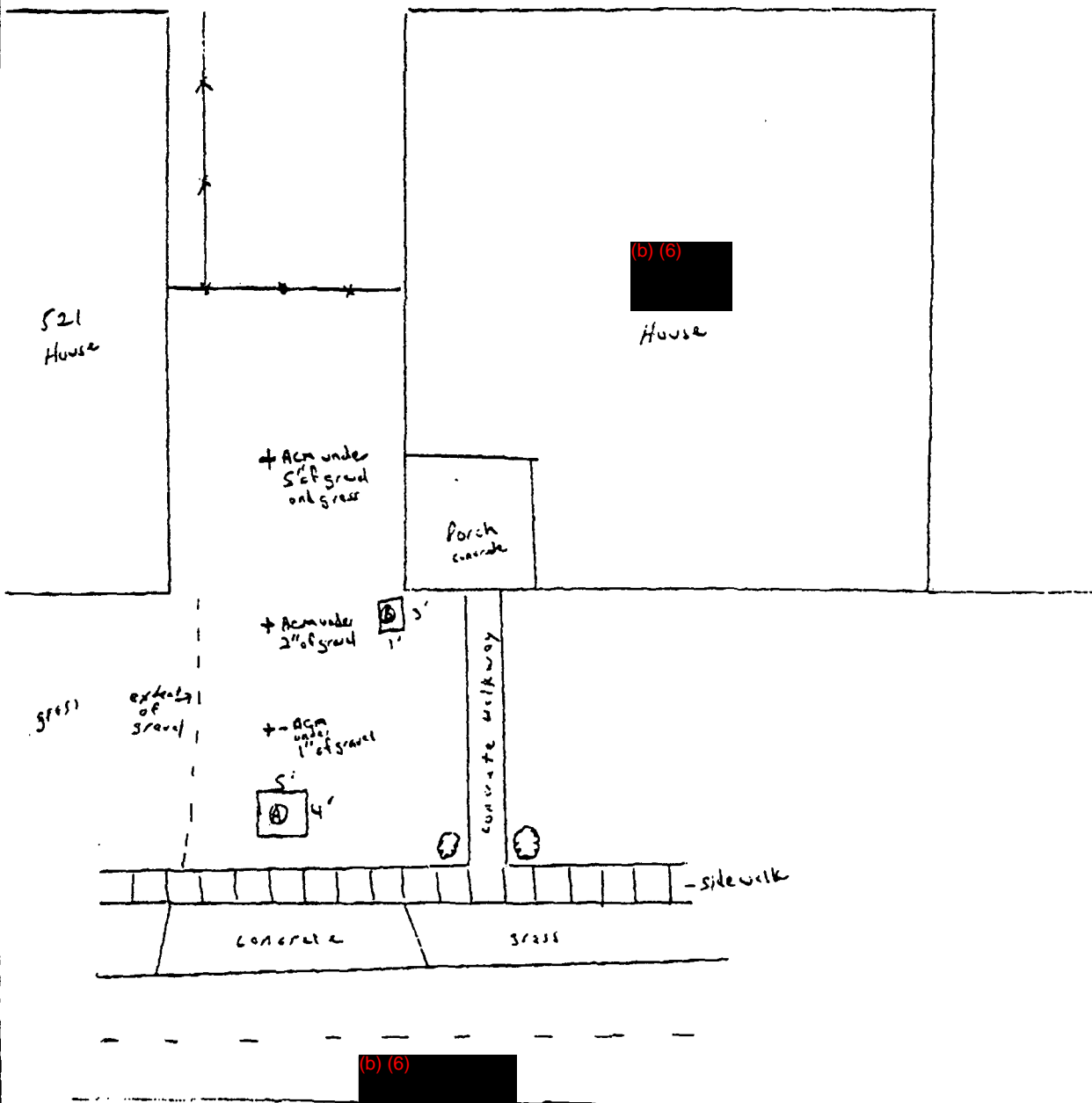


Legend

NTS

N

- ① ACM at surface - 4' x 5'
- ② ACM at surface - 1' x 3'



Name: Westbank Asbestos  
EICB Log #: 97-2007

**ROUTING:**  
Ed Skowronski  
CS File

**ATTACHMENT 3**  
**Analytical Results**

Portland, NJ    Peaslee, NJ    Carlo Plaza, NY    Manhattan, NY    Seattle, WA    San Arbat, MI    San Juan, CA    Tampa, FL    Bethesda, MD    Dayton, OH  
 201-426-0200    201-261-0554    212-897-7541    212-288-8852    206-221-2027    313-483-4310    415-476-1481    813-223-0288    301-287-1437    912-683-3651


 EMSL

Ecology & Environment, Inc.  
 11550 Newcastle Ave. #250  
 Baton Rouge, LA 70816

Tuesday, December 17, 1996

Ref Number: TX963264

## POLARIZED LIGHT MICROSCOPY (PLM)

| SAMPLE                              | LOCATION | APPEARANCE                        | SAMPLE<br>TREATMENT | ASBESTOS                            |      | NONASBESTOS |                      |
|-------------------------------------|----------|-----------------------------------|---------------------|-------------------------------------|------|-------------|----------------------|
|                                     |          |                                   |                     | %                                   | TYPE | %           | FIBROUS % NONFIBROUS |
| WBS30203MA1 (302)<br><b>GRID #3</b> |          | Tan<br>Non-Fibrous<br>Homogeneous | Tested              | 2% Chrysotile<br>< 1% Crocidolite   |      |             | 98% Other            |
| WBS30204MA1 302                     |          | Tan<br>Non-Fibrous<br>Homogeneous | Tested              | < 1% Chrysotile<br>< 1% Crocidolite |      |             | 100% Other           |
| WBS93401MA1 934                     |          | Tan<br>Non-Fibrous<br>Homogeneous | Tested              | 2% Chrysotile<br>< 1% Crocidolite   |      |             | 98% Other            |

Comments: For all obviously heterogeneous samples easily separated into subsamples, and for layered samples, each component is analyzed separately.  
 Also, "% of Layers" refers to number of separable subsamples.



Carlos D. Salinas  
 Analyst

Approved  
 Signatory

Disclaimer: PLM has been known to miss asbestos in a small percentage of samples which contain asbestos. Thus negative PLM results cannot be guaranteed. Floor tiles and wipes should be tested with either SEM or TEM. The above test report relates only to the items tested. This report may only be reproduced in full with written approval by EMSL. The above test must not be used by the client to claim product endorsement by MVLAP nor any agency of the United States Government. All "MVLAP" reports with MVLAP logo must contain at least one signature to be valid. Laboratory is not responsible for the accuracy of results when requested to physically separate and analyze layered samples.

|              |                  |                  |                |              |              |              |              |              |              |
|--------------|------------------|------------------|----------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Westbank, NJ | Philadelphia, NJ | Corbis Plaza, NY | Washington, NY | San Jose, CA | San Jose, CA | San Jose, CA | San Jose, CA | San Jose, CA | San Jose, CA |
| 650-450-0000 | 215-421-0000     | 914-287-7000     | 212-420-0000   | 408-225-0000 | 415-420-0000 | 415-420-0000 | 415-420-0000 | 415-420-0000 | 415-420-0000 |

EMSL

Ecology & Environment, Inc.  
11550 Newcastle Ave. #250  
Baton Rouge, LA 70816

Thursday, January 09, 1997

Ref Number: TX9748

## POLARIZED LIGHT MICROSCOPY (PLM)

Project: 020601 WESTBANK ASBESTOS

| SAMPLE    | LOCATION | APPEARANCE                      | SAMPLE<br>TREATMENT | ASBESTOS |                                | NONASBESTOS |                      |
|-----------|----------|---------------------------------|---------------------|----------|--------------------------------|-------------|----------------------|
|           |          |                                 |                     | %        | TYPE                           | %           | FIBROUS % NONFIBROUS |
| W86388001 | #399     | Brown<br>Fibrous<br>Homogeneous | Teased              | 2%       | Chrysotile<br>< 1% Crocidolite |             |                      |

Comments: For all obviously heterogeneous samples easily separated into subsamples, and for layered samples, each component is analyzed separately. Also, "# of Layers" refers to number of separable subsamples.

Arthur Hernandez, Jr.  
Analyst

Approved  
Signatory

Disclaimer: PLM has been known to miss asbestos in a small percentage of samples which contain asbestos. Thus negative PLM results cannot be guaranteed. Floor tiles and wipes should be tested with either SEM or TEM. The above test report relates only to the items tested. This report may only be reproduced in full with written approval by EMSL. The above test must not be used by the client to claim product endorsement by EMSL or any agency of the United States Government. All "EMSL" reports with EMSL logo must contain at least one signature to be valid. Laboratory is not responsible for the accuracy of results when requested to physically separate and analyze layered samples.

Name: Westbank Asbestos  
EICB Log #: 97-2007

ROUTING:  
Ed Skowronski  
CS File

### ATSDR Record of Activity

UID #: TYM4 Date: 01-16-97 Time: 2:00 am \_ pm X

Site Name: Westbank Asbestos Site City: Marrero Cnty: Jefferson Parish  
State: LA

CERCLIS #: \_\_\_\_\_ Cost Recovery #: 60Y6 Region: 6

Site Status (1) \_ NPL X Non-NPL \_ RCRA \_ Non-Site specific \_ Federal  
(2) \_ Emergency Response \_ Remedial X Removal \_ Other

#### Activities

\_ Incoming Call \_ Public Meeting' X Health Consult' \_ Site Visit'  
\_ Outgoing Call \_ Other Meeting \_ Health Referral X Info Provided  
\_ Conference Call \_ Data Review \_ Written Response \_ Training  
\_ Incoming Mail \_ Other:

Requestor and Affiliation: (2) John Martin, Sr. OSC-EPA Region 6,  
Site Response Section  
Phone: 214/665-6748; LA Site 504/363-0037, LA FAX 504/363-4732  
Address: 1445 Ross Avenue, Mail Code 6SF-R2  
City: Dallas State: TX Zip Code: 75202-2733

#### Contacts and Affiliation

(1) Bobbie Erlwein, Region VI Rep. ( ) \_\_\_\_\_  
( ) \_\_\_\_\_ ( ) \_\_\_\_\_

1=ATSDR 2=EPA 3=Other Fed 4=State Health 5=State Environment  
6=Local Health 7=Elected Official 8=Private Co 9=Private Citizen  
10=News Media 11=Citizen Group 12=USCG 13=Natl Respsns Cntr 14=Other

#### Program Areas

\_ Health Assessment \_ Health Studies \_ Tox Info-profile \_ Worker Hlth  
\_ Petition Assessment \_ Health Survellnc\_ Tox Info-Nonprofil\_ Admin  
\_ Emergency Response \_ Disease Registry \_ Subst-Spec Resch \_ Other  
X Health Consultation \_ Exposr Registry \_ Health Education

#### Narrative Summary:

As part of the ongoing EPA Region VI removal activities at the Westbank Asbestos Site in Marrero, Louisiana, ATSDR was requested to comment on proposed removal depth of asbestos-containing-material (ACM) at residential properties and proposed removal activities at specific properties (Site #268, #289, #302, #399, and #455) and determine if these proposals and activities are protective of public health. Background information is provided in Attachment 1, AROA EICB LOG #97-1032.



Name: Westbank Asbestos  
EICB Log #: 97-2007

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Due to the extent and nature of the ACM at the Westbank Asbestos site (greater than 900 properties contaminated with ACM), the cost of excavating the ACM to a maximum depth of 2 feet in residential soils (as proposed by EPA in a previous request to ATSDR; AROA attachment 1) has become too great. EPA has therefore proposed to excavate the ACM in residential soils to a maximum depth of 1 foot below the surface. A geotextile liner (warning barrier) will be placed over the ACM and clean fill material will be backfilled over the geotextile liner. EPA will notify the property owner if waste had to be left below the surface (1 foot depth). The State of Louisiana Department of Environmental Development Control (to include the local/parish utility officials) will also be notified by EPA that ACM is below the surface at this location. EPA will pursue institutional controls to the extent/limit of their authority and will encourage appropriate local and state agencies to pursue similar actions under their respective authorities to notify future property owners that ACM is below the surface at this property.

EPA Region VI proposed the following removal activities at the following specific residential properties (See Attachment 2; site maps):

1. Site #268: Area D (see attachment 2); on this property ACM was identified under 5 inches of clay cover and vegetation. EPA proposes to leave the ACM in place and institutionalize the subsurface location. EPA will notify the property owner that waste had to be left below the surface. The State of Louisiana Department of Environmental Development Control (to include the local/parish utility officials) will also be notified by EPA that ACM is below the surface at this location. EPA will pursue institutional controls to the extent/limit of their authority and will encourage appropriate local and state agencies to pursue similar actions under their respective authorities to notify future property owners that ACM is below the surface at this property.
2. Site #289: ACM has been identified at the surface and subsurface in the backyard at this property. Due to the extent of ACM below the surface at this property, EPA proposes to excavate the ACM to a maximum depth of 4 inches. A geotextile liner (warning barrier) will be placed over the ACM and clean fill material will be placed over the geotextile liner. Residential properties with ACM waste left in place below the surface will be subject to the same parameters (notification of property owner, utility authorities, notification system for future property owners, etc.) as mentioned above.
3. Site #302: The ACM identified on this property in Grid 3 (see attachment 2) has been excavated to a maximum depth of 6 inches. EPA proposes to place a geotextile liner over the ACM and

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EICB Log #: 97-2007

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backfill with clean soil and sod. Residential properties with ACM waste left in place below the surface will be subject to the same parameters (notification of property owner, utility authorities, notification system for future property owners, etc.) as mentioned above.

4. Site #399: This property has two small yard areas as indicated on the site diagram in attachment 2. These areas were sampled and included in a composite sample of the entire property. The sample results indicated that asbestos was less than 3% (see attachment 3). Area B of the property was excavated to a maximum depth of 6 inches. EPA proposes to geotextile line these areas (A and B) and backfill with sand and sod. Residential properties with ACM waste left in place below the surface will be subject to the same parameters (notification of property owner, utility authorities, notification system for future property owners, etc.) as mentioned above.
5. Site #455: John - please write your final proposal for this property in a fax and any other comments regarding this area.  
thanks, tam  
I'll be in the office 8-2:30p Friday Jan 17.  
404/639-0621  
fax 0655

Action Required/Recommendations/Info Provided:

Based on the information provided, ATSDR concurs with EPA's proposed removal activities as stated above at the Westbank sites. In addition, ATSDR has the following recommendations:

1. In addition to the notification system EPA proposes if ACM waste is left in place below the surface at residential properties, ATSDR recommends that the property owner be notified not to dig in the area of the yard where ACM is below the surface. If the ACM material is brought to the surface through gardening, building on the property, or any type of excavation activities it may present a future health concern.
2. EPA should continue to conduct air sampling and dust suppression techniques during removal activities to ensure that the removal activities do not pose a health threat to the community.

ATSDR will be available to assist EPA Region VI with further evaluation

Name: Westbank Asbestos  
EICB Log #: 97-2007

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and/or review of site by site removals activities, sampling plans, sampling data, etc., as they become available.

Signature: Tammie McRae, M.S. Date: \_\_\_\_\_

Concurrence: Steven Kinsler, Ph.D. Date: \_\_\_\_\_

Enclosures: Yes ( ) No (x); MIS entered: Yes ( ) No ( )

cc: EICB File  
Ed Skowronski  
Bobbie Erlwein, Region VI Representative  
PERIS  
Tina Forrester, DHAC/TPO-LA  
Steven Kinsler, DHAC/EICB/CS

Draft - Spring 1995

**STRATFORD, CT RESIDENTIAL PROPERTY INVESTIGATION AND  
EXCAVATION PROTOCOL FOR PROPERTIES CONTAMINATED WITH WASTE FROM  
RAYMARK INDUSTRIES, INC.**

**I. BACKGROUND**

This document describes the scope and nature of response actions planned by EPA at residential properties in Stratford, Connecticut contaminated with concentrations of Raymark waste that are considered to be a public health threat. First and foremost the remedy for the residential properties is designed to be protective of human health, yet conducted using methods designed to minimize costs without compromising public health. This protocol includes discussions of how EPA defines Raymark waste, how residential properties will be investigated, what concentrations will trigger excavation activities, how excavations will be conducted, and the rationale behind EPA-New England's cleanup approach.

Since 1993 EPA has collected and analyzed over 15,000 samples from approximately 500 residential, commercial, and municipal properties to check for the presence of Raymark waste. It is anticipated that 41 residential properties will likely need some excavation. In this document, EPA utilizes the accumulated data and excavation experience to refine the manner in which it will address the remaining residential properties. EPA has prepared this protocol to guide the actions of federal government personnel and contractors at residential properties through completion of the residential excavations. Site-specific conditions may dictate some variations from this protocol. Either the On-Scene Coordinator (OSC) or the Raymark Team Leader will make these decisions as needed on a case-by-case basis.<sup>1</sup>

**II. GOALS FOR ADDRESSING RESIDENTIAL PROPERTIES**

For this project, it is EPA's intention to address **only** those health threats presented by Raymark waste. Limited resources combined with the specific scope for which this project was

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<sup>1</sup> EPA has transferred excavation operations to the U.S. Army Corps of Engineers (USACE) through an interagency agreement. The On-Scene Coordinator will be either an EPA or USACE response manager.

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authorized demand this focus. If other health threats are identified, EPA may work with property owners and other government agencies to explore available response alternatives, or in extreme cases, exercise the option of addressing them under another EPA project.

EPA's goals for the residential properties are:

- 1) To abate health threats presented by Raymark waste in a permanent manner that minimizes restrictions on future use for the residential properties; and
- 2) To avoid placing residential properties on the National Priorities List (NPL)<sup>2</sup>.

\*\*\*\*\*

EPA is accomplishing the protection public health at residential properties through the excavation of contaminated soil and the subsequent replacement of that soil with clean fill. (For further discussion, see Section VII.) However, EPA has agreed to local requests to continue excavation, within cost/ benefit limits to be determined case-by-case by the OSC, to completely remove all contamination where possible and hence leave the property in a state that will not require any future safeguards or controls.

However, it is also EPA's responsibility to ensure that Superfund is not spent on unnecessary excavation (i.e., the excavation of soil that presents little or no public health threat). Since this project currently includes approximately 41 residential properties, not adhering to this principle could account for the unnecessary expenditure of millions of dollars. For this reason, the following protocol defines methods by which to **minimize** excavation while still addressing the above-stated goals. These methods will not compromise EPA's primary goal of protecting public health from the threats posed by Raymark waste.

### III. EXPOSURE PATHWAYS

The primary exposure pathways of concern at residential properties include the incidental ingestion, direct dermal contact,

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<sup>2</sup> Cleanup actions undertaken by EPA's Superfund Removal Program at residential properties will obviate the need for residential properties to be included on the NPL.

and inhalation of contaminated soil or dust. The potential for exposure to subsurface contaminants depends on the possibility of contamination being brought to the surface by future soil-moving activities. Soil could be excavated to a depth of approximately 8 feet to construct a foundation and basement for a home, or to a lesser depth to construct a swimming pool. As a result of excavation and subsequent soil-moving activities, the contaminated subsurface soils would be mixed and diluted to some extent with uncontaminated soils. A method for addressing vertical mixing is described in Section VII.

Excavation will not proceed into the **groundwater table**. EPA assumes that subsurface soil contamination that exists below the groundwater table will **not** be disrupted by normal invasive activities.

EPA has evaluated other potential contaminant pathways and determined that there are no health threats from groundwater or air contaminants associated with Raymark's waste at residential properties. The rationale for this determination is set out below. Residential properties and areas associated with wetlands and ecologically sensitive receptors are currently being addressed through a remedial investigation and are not part of the residential property cleanup plan that this protocol describes.

\*\*\*\*\*

#### IV. RAYMARK WASTE IDENTIFICATION

The definition of Raymark waste is a significant element of this excavation protocol because, as stated above, the scope of this response action is to address **only** Raymark waste. Hence, EPA will make a determination based upon this definition as to whether or not to take action. Two criteria must be met in order for EPA to initiate an action:

- 1) material must contain compounds indicative of Raymark waste; and
- 2) material must exceed levels of concern for those compounds.

#### Criteria #1: ---> Identifying Raymark Waste

The characterization of Raymark waste was performed by analyzing over 100 contaminated soil samples collected at the

Raymark facility. In addition to many other contaminants found in the facility samples, lead (Pb) was found **100%**, polychlorinated biphenyls (PCBs) **87%**, and asbestos **92%** of the time. EPA selected these three contaminants as indicator parameters of Raymark waste because they can be detected through accepted and easily used field screening methods. The identification of Raymark waste on residential properties is based on comparisons to this initial waste characterization.

Finding any one of these compounds in the environment is not necessarily an indicator of the presence of Raymark waste -- they are commonly found alone. **However, two out of 3 of the indicator parameters were found in 100% of the samples of Raymark waste.** EPA, therefore, defined Raymark waste as material that contains 2 out of 3 of the indicator parameters to exclude ubiquitous, unrelated contamination from this project.

Criteria #2: ---> Identifying Levels of Concern

Cleanup Levels

Cleanup levels define when an excavation is complete, i.e., they indicate when an excavation can **stop**. EPA, in conjunction with the Agency for Toxic Substances and Disease Registry (ATSDR) and Connecticut Department of Public Health and Addiction Services, developed the following **residential property** cleanup levels for the three indicator compounds: **500 parts per million (ppm) lead, 1% asbestos, and 1 ppm (total) PCBs (i.e., 500/1/1).**<sup>3</sup> These cleanup levels are the concentration levels in soil at or below which the contaminants are considered to be no health threat. They were selected for the following reasons:

**LEAD:** The **400 ppm** lead in soil cleanup level is a health risk-based level. Assuming exposure to contaminated soils occurs under a residential scenario and no other significant sources of lead are present (such as interior lead paint), a concentration of 400 ppm is not expected to cause elevated

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<sup>3</sup> EPA realizes that cleanup levels higher than 400/1/1 may be protective of public health depending on the specific conditions of each property and unique exposure characteristics of each resident (e.g., children versus adults), and considers these values to be conservative cleanup levels.

blood lead levels in young children. EPA's Integrated Exposure Uptake Biokinetic (IEUBK) Model (EPA/540/R-9/081) provides the basis for this cleanup level.

**ASBESTOS:** Toxicity information for evaluating health risks via exposure to asbestos in soils is not available. A value of **1 percent by volume** of soil was selected based on a National Emission Standard for Hazardous Air Pollutants (NESHAP) requirement for asbestos and is supported by a National review of Records of Decision from fiscal years 1987 through 1992.

**PCBs:** A value of **1 ppm (total)** was selected based on the Office of Solid Waste and Emergency Response (OSWER) Directive No. 9355.4-01, dated August, 1990, "Guidance On Remedial Actions For Superfund Sites With PCB Contamination." Pursuant to this guidance, a cleanup level of 1 ppm of PCBs is protective of human health in a residential exposure scenario without institutional controls.

#### Action Levels

Action levels are the levels which trigger cleanup, i.e., they determine when an excavation will **start**. The action level for Pb is 500 ppm, and was chosen in consultation with ATSDR. For asbestos and PBCs, the action levels are, by default, the values immediately above the cleanup levels, or 2 % and 2 ppm, respectively. The set of action levels will therefor be referred to as "500/2/2".

Therefore, EPA will only take action on a property as part of this project if the two following criteria are met:<sup>4</sup>

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<sup>4</sup> Other contaminants of concern, besides the three indicator parameters identified in waste from the Raymark facility, were dioxins, metals, and semi-volatile and volatile organic compounds. Lab analyses of soil samples gathered in the field for confirmatory sampling during excavation have shown that when the 400/1/1 cleanup levels for the indicator parameters are reached, **the other contaminants of concern have been addressed as well** (i.e., no other contaminants are present in the sample).



- 1) Raymark waste is identified (i.e., material containing at least 2 of the 3 indicator parameters); and
- 2) The waste **exceeds** the action levels of 500/2/2 for 2 of the 3 indicator parameters.

#### V. SITE INVESTIGATION FOR ADDITIONAL RESIDENTIAL PROPERTIES

EPA's goal for site investigation is to identify through a reasonably thorough investigation all likely areas where Raymark waste has been deposited so it can be appropriately addressed. This search has been implemented by investigating historical records, interviewing town residents, town employees, and employees of the Raymark facility, and conducting a major soil sampling effort involving both surface and depth screening. The following site investigation protocol has been developed to investigate residential properties identified as potential areas of concern for 1994 and into the future (See FIGURE 2).

##### STEP #1 ---> Property Selection

EPA will screen properties which meet the following criteria:

- a) There are visible indications of Raymark waste (e.g., brake pads and other products manufactured at the facility); or
- b) EPA believes, based on historical records, referrals from the town, eye witness reports, experience from the investigation, or other information that Raymark waste may have been placed on the property.

Deciding on which properties to investigate will normally be the responsibility of the EPA Site Investigator.

##### STEP #2 ---> Property Screening Sampling Effort

The first sampling round at a residential property that has been identified through the site screening process will involve<sup>5</sup>:

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<sup>5</sup> The EPA Site Investigator may require a modification to  
(continued...)

- 1) **At least 9 surface samples** per property (assuming an average property size of a quarter acre) from the **top 0 to 3 inches**; and
- 2) **At least 3 subsurface borings** with samples taken at one foot intervals to a depth of at least **2 feet**. (This depth was chosen after analysis of the town-wide sampling data and observations from the initial excavations. All properties with contamination at depth also showed contamination in the top 2 feet.)

Sample locations selected during this first round of screening will be biased (i.e., if there are suspected locations of waste on a property, then those locations will be sampled). For example, surface samples will not be gathered from areas directly adjacent to a house, because the presence of lead in the sample might be the result of flaking lead-based paint, and not Raymark waste. Depth screening samples will also be located in suspected areas where waste may be located (e.g., near a property boundary if waste has been detected on adjacent properties).

- If **Raymark waste is discovered on the surface (top 3") and not in the subsurface screening sample results**, the surface contamination will be removed (unless it is not considered to be a health threat) and the property restored. No additional borings will be conducted. (Excavation would continue until samples from the excavation floor and walls were below cleanup levels for 2 of the 3 indicator parameters.)
- If **Raymark waste is discovered in the subsurface screening samples**, the property is a candidate for excavation and an extent-of-contamination sampling effort (Step #3) will be performed.
- If **no Raymark waste** is discovered in the surface or subsurface samples, the property will **not** be a candidate for excavation and the EPA investigation of that property will end at that

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<sup>5</sup>(...continued)

these counts due to significant variations in property size or other relevant factors.

point.

- If non-Raymark contamination is discovered, then EPA will work with property owners and other involved government agencies to explore response alternatives, or, in extreme cases, exercise the option of addressing it under another project.

STEP #3 ---> Extent-of-Contamination Sampling Effort

A more comprehensive extent-of-contamination sampling effort will be performed if EPA determines that the property is a candidate for excavation. Soil borings of sufficient number to define an approximate estimate of the extent and magnitude of the contamination will normally be advanced to a depth of **8 feet** unless "refusal" (e.g., ledge or bedrock) is encountered before then. The OSC can vary the extent-of-contamination procedure based on site-specific information to achieve increased efficiency of project resources. Ground penetrating radar information, if available, may be used to supplement the sample data. Upon the completion of this sampling effort, a Comprehensive Site Investigation Report (CSIR) containing all data from a property will be prepared.

STEP #4 ---> Develop Excavation Plan

Upon the completion of a CSIR, a site-specific excavation plan will be developed in accordance with Section VII of this protocol. (The exact extent of contamination will not be known until confirmation sampling to show that all the waste is removed is conducted **during excavation**. Confirmation samples provide the information on when to stop excavating.)

VI. CONTINUED SITE INVESTIGATION FOR PROPERTIES IDENTIFIED AND SAMPLED IN 1993

For investigations initiated in 1993, if the EPA Raymark Team determines that the data for a property is inconclusive, EPA will request access to conduct additional soil borings.

- If the property owner grants access, EPA will get the additional data and will decide, based on this protocol, whether excavation is necessary.

- If the property owner denies access, EPA will send the owner a letter explaining ramifications for denying access and again request that the owner grant access. If the owner still refuses, EPA's position will be that no Raymark waste has been identified on that property, and close the file on it.

If the EPA Raymark Team members cannot reach agreement on the data, the determination on closing the file or requesting access for additional borings will be made by the Raymark Team Leader.

## **VII. DEVELOPING AN EXCAVATION PLAN**

EPA will make a determination as to whether or not to excavate based on the criteria defining Raymark waste (Section IV), and the data gathered during site investigation activities (Section V) as compared against the **action levels**. If excavation is necessary, the following steps, utilizing the **cleanup levels** to determine when to stop excavation, will guide the development of an excavation plan (See FIGURE 3).

Step #1 --->    Excavate any Raymark Waste in the top 3 feet of the soil column

Raymark waste identified above the action levels in the top 3 feet of the soil column will be excavated unless it is determined to be no health threat.

Step #2 --->    *(Delete and change Step "3" to "2".)*

Step #3 --->    If any Raymark waste is present below 3 feet, apply the concept of "vertical averaging" to determine the extent of excavation

The EPA Region I removal program, in conjunction with the USACE, had previously determined in other projects that 3 feet of clean fill over contaminated soil will prevent the upward mobility of nonvolatile contaminants due to natural "frost-heave" weathering processes in New England. Also, 3 feet, or 36 inches, exceeds the frost line in Stratford, which is approximately 24 - 30 inches, adding a margin of safety. For these reasons, EPA considers 3 feet to be an adequate depth to be protective of public health.

Below a depth of 3 feet, "vertical averaging" of contaminant concentrations in the soil column, i.e., averaging the data from soil boring samples taken at 1 foot intervals, will be applied to

determine the extent of excavation. As mentioned above, in considering the subsurface contamination exposure scenario of excavation and soil handling, EPA believes that some mixing and dilution with uncontaminated soils would occur. Thus, utilizing surface action levels for subsurface soils would be overly conservative. This, combined with the fact that the action levels for this project are conservative, led EPA to determine that measuring attainment based on the average of sample results within the same boring is appropriate. **Significant contamination would not be eliminated from excavation plans using this method, but residual subsurface contamination slightly above action levels would be.**

1) Identify the depth over which contaminant concentrations will be averaged.

- All data from a boring to the deepest contaminant reading should be used. For example, if an 8 foot deep boring indicated that the waste did not extend below 5 feet, only data from 1 to 5 feet should be used to calculate the average.

2) Determine appropriate levels of contaminants that can be left at depth through the use of vertical averaging.<sup>6</sup>

- Excavation will continue until the averages of contaminant concentrations in a soil boring are below cleanup levels for 2 out of 3 parameters. **Hence, an individual contaminant may be left in the ground above its cleanup level if the other 2 indicator contaminants average out to less than their respective cleanup levels.**

3) Determine whether or not it is possible to remove all Raymark waste.

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<sup>6</sup> The numerical average will also take into account any soil that will be replaced in the top three feet as a result of excavation. Assume that any replacement soil used for excavation in the top three feet of the soil column is "clean" (i.e., 0 ppm lead and PCBs and 0% asbestos). Periodic sampling of clean fill will verify its values. If the replacement soil has any lead, asbestos, or PCBs, allowable concentrations of contaminants to be left in place may be lower, since the average should be at or below 400/1/1.

- If site-specific circumstances dictate it (such as close proximity to a structure making excavation impractical, or waste extending into the groundwater table), waste exceeding the cleanup levels will be left in place. This may result in a deed restriction or other controls placed on the property.
- 4) Excavate waste and perform verification sampling to ensure removal of contamination.
- EPA will laterally extend the excavation until the results from samples taken from the vertical faces of the excavation indicate that cleanup levels are reached for 2 of the 3 parameters. Sampling procedures, specified in the Sampling QA/QC Plan for Stratford, call for discrete samples from excavation walls at 2 foot depth intervals every 15 feet, and 1 composite floor sample from 5 discrete samples (4 corners and middle) for every 15' x 15' area.
  - Property owners will be given all available data from their property as soon as possible after the conclusion of the excavation.

Table 1 shows average levels of contamination and the associated depths which, **assuming clean fill above and no contamination below**, would be left in place without EPA seeking institutional controls. It is based on multiplying the cleanup levels by the minimum depth for each row, e.g., for the 3 - 4 foot depth, the Pb value is 400 x 3, asbestos value is 1 x 3, and the PCB value is 1 x 3. This table is only meant to be used as a **guideline** in determining the extent of excavation and as an illustration of the concept of vertical averaging.

| Depth<br>(Feet) | Lead level<br>(ppm) | Asbestos<br>(%) | PCB<br>(ppm) |
|-----------------|---------------------|-----------------|--------------|
| 3 - 4           | 1200                | 3               | 3            |
| 4 - 5           | 1600                | 4               | 4            |
| 5 - 6           | 2000                | 5               | 5            |
| 6 - 7           | 2400                | 6               | 6            |
| 7 - 8           | 2800                | 7               | 7            |
| 8 - 9           | 3200                | 8               | 8            |

**Table 1. Allowable levels of contamination to leave under a cover of clean fill at specified depths, assuming that there is no contamination below that depth as well.**

#### **VIII. EXAMPLES ILLUSTRATING THE USE OF THE EXCAVATION PROTOCOL**

FIGURE 4 illustrates three generalized examples of Raymark waste deposits found in Stratford. This protocol will be applied to each generalized scenario as an illustration of how it is intended to be used.

##### **SCENARIO #1: SURFACE CONTAMINATION ONLY**

**DESCRIPTION:** Raymark waste has been found only in surface samples.

**INVESTIGATION PROTOCOL:** Samples gathered during the property screening sampling effort (Step #2) would indicate the presence of Raymark waste in surface samples only. Depth screening samples would not reveal waste below 1 foot. No more investigative sampling is necessary because the excavation plan would require that samples be taken concurrently with the excavation effort to ensure that the lens of contamination has been completely removed.

**EXCAVATION PROTOCOL:** In this case, the excavation would be limited to removing any surface deposits of Raymark waste (Step #1) and the extent of contamination would be defined by the results of the initial sampling effort as well as verification sampling taken during the excavation itself. There is no need to look at Steps #2 and #3.

##### **SCENARIO #2: SURFACE AND LIMITED SUBSURFACE CONTAMINATION**

**DESCRIPTION:** Concentrated waste is found within the top 3 feet of the soil boring with residual waste located above and below a more concentrated lens of waste.

**INVESTIGATION PROTOCOL:** In this case, samples gathered from the property screening sampling effort (Step #2) would indicate the presence of Raymark waste in the screening borings, but not in surface samples. Based on the results of the initial sampling effort, a more comprehensive extent-of-contamination sampling survey (Step #3) would be performed to determine the nature of the waste deposit. Soil borings sufficient to determine the extent of contamination would be sampled and a CSIR would be prepared. The soil column should be investigated to a depth of approximately 8 feet, unless site-specific conditions warrant otherwise.

**EXCAVATION PROTOCOL:** Upon review of the data from the sampling efforts, an excavation plan would be developed. The first part would involve the removal of all concentrated waste exceeding 2 of the 3 indicator parameters (Step #1). Then the OSC must make a determination as to the depth of potential soil exposure (Step #2). In general, EPA will assume that the groundwater table will preclude future exposure to contaminated soil. Finally, the concept of vertical averaging (Step #3) would be used by the OSC to determine the extent of excavation. Contamination would be removed until the vertical average in the soil column of potential exposure was less than 400/1/1. **If residual waste at the bottom of the excavation vertically averages out to be below cleanup levels, it may be left in place and covered by clean fill.** In most cases, concentrated waste would have to be removed in order for the vertical average not to exceed the cleanup levels of 400/1/1. Confirmation samples taken in the final phases of the excavation would be taken to verify the removal of Raymark waste.

### SCENARIO #3: EXTENSIVE SUBSURFACE CONTAMINATION

**DESCRIPTION:** Extensive subsurface contamination exists.

**INVESTIGATION PROTOCOL:** Same as in previous example.

**EXCAVATION PROTOCOL:** Same as in previous example except that the OSC or Raymark Team Leader can make a determination that it is unproductive to excavate deeper than 3 feet until vertical averages are below 400/1/1. This reflects EPA's responsibility to manage Federal response resources. Hence, if the volume of additional



waste generated through excavation is excessive, it may be appropriate to excavate only the top three feet of waste, cover with clean fill, and require that institutional controls be imposed on the property. EPA still considers this alternative response to be protective of public health (see Section VII). In general, EPA will make a reasonable effort to remove concentrated deposits of Raymark waste **above a depth of 8 feet.**

#### **IX. INSTITUTIONAL CONTROLS**

EPA believes that adherence to this protocol will result in the protection of public health from health risks posed by the presence of Raymark waste on residential properties. As such, EPA will prepare a letter for residential property owners upon the completion of a removal action that presents the data discovered through soil sampling, describes how the response taken has mitigated health threats, and "closes the file" on further actions relating to this response activity.

In certain situations, EPA may not be able to come to a final determination that health threats posed by contamination found at residential properties have been mitigated. In these cases, EPA will require that institutional controls, such as deed restrictions, be applied to protect future property owners from situations that might result in their exposure to contamination.<sup>7</sup> EPA may also require institutional controls in such cases where Raymark waste cannot be removed because of its proximity to a structure or a property owner will not grant EPA access to excavate known waste.

#### **X. ROLES OF INVOLVED AGENCIES**

EPA is responsible for carrying out Superfund response actions to protect public health and the environment, and as such, will serve as the primary Federal agency responsible for making risk management decisions with regard to this response action. ATSDR and CT DPHAS are acting in an advisory capacity for this response action, and will be actively involved in determining the final

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<sup>7</sup> A deed restriction will be required unless the waste is deeper than any excavation which would be allowed on a property by a building permit.

status of the properties.

EPA will continue to solicit input from the Town of Stratford Health Department, the Town Manager, other town officials as appropriate, and the CT DEP when developing its response plans.

C:\wp\data\raymark.ind\mhill\strLgy\protocol.11

10/11

TO WESTBANK Command Post

ATTN John Martin  
FAX 504-363-4732

In Bobbie ERLWEIN  
ATSDR phone 214/665-8360

TOTAL Pgs 16

John - This is the ~~slam~~ plan from Stafford.  
Contacts up there in EPA Area

① Mike JASINSKI (current Raymark TEAM leader)  
617/573-5786

② MIKE Hill (write part of plan) 617/573-9633

Hope it helps let me know if there is anything

Else --

Have a good one --

Bobbie

Thanks  
Sybil  
(probably spelled  
your name wrong -)  
sorry - )

B

Health Consultation

Westbank Asbestos (60Y6)  
Marrero, Jefferson Parish, Louisiana

August 21, 1996

U.S. Department of Health and Human Services  
Public Health Service  
Agency for Toxic Substances and Disease Registry  
Division of Health Assessment and Consultation  
Atlanta, Georgia 30333

**Health Consultation  
Westbank Asbestos (60Y6)  
Marrero, Jefferson Parish, Louisiana**

**BACKGROUND AND STATEMENT OF ISSUES**

The U.S. Environmental Protection Agency (EPA) Region VI requested that the Agency for Toxic Substances and Disease Registry (ATSDR) evaluate a Time-Critical Removal Action Memorandum [1] for soils contaminated with asbestos containing materials (ACM) at the Westbank Asbestos Site in Marrero, Louisiana, and determine if the proposed actions are (1) warranted and (2) protective of public health. On August 13, 1996, a conference call was held to discuss ATSDR's review and evaluation of the above memorandum.

The site consists of six communities located on the opposite bank of the Mississippi River from the City of New Orleans, Louisiana. The ACM is found on residential properties and in public access areas (including day care facilities, schoolyards, parks, etc.). The site includes the Jefferson Parish communities of Bridge City, Westwego, Marrero, Harvey, and Gretna, and the Orleans Parish community of Algiers. The estimated population of the communities included in the site is 183,000.

The apparent source of ACM is the former Johns-Manville plant located in Marrero. The plant operated from 1929 to 1975 and produced various types of asbestos containing products, chiefly as asphaltic roofing material. An asbestos containing aggregate was produced as a by-product during the manufacturing operations. The aggregate was pulverized in a hammer mill and mixed with filler, usually composed of gypsum, dolomite, or calcite. The asbestos aggregate and filler formed a concrete-like material when mixed with water and therefore was considered by many local residents to be a concrete substitute for construction purposes. From 1955 to 1965, this ACM was offered to the local residents free-of-charge, and was used for construction of driveways, walkways, and other areas.

In January and February 1996, Superfund Technical Assessment and Response Team (START) accompanied by the Louisiana Department of Environmental Quality (LDEQ) personnel, conducted a street by street visual inspection of potential ACM areas. START found that much of the ACM had become friable since their last site assessment in 1990. Currently, 582 properties have been identified that contain deteriorating ACM. These properties include driveways, walkways, and other areas. According to EPA, most of these locations have ACM that is subjected to mechanical

disturbances such as wheel loading, walking pressures, recreational activities, mowing, driving, etc. that contribute to the deterioration and release of asbestos fibers.

In March 1996, START collected and analyzed 60 bulk (ACM) samples and 30 soil samples using Polarized Light Microscopy (PLM). The 60 bulk samples averaged 43% asbestos (32% chrysotile, 9% crocidolite, 2% amphiboles). The 30 soil samples averaged 24% to 30% chrysotile/amphibole by weight. EPA reported that children were playing on driveways composed of friable ACM, another resident was observed mowing his grass with ACM outcroppings in the yard, and vehicles were observed creating dust when passing over areas that contained ACM. These routine activities would increase the friability of the ACM and the likelihood of human exposures.

## **DISCUSSION**

Areas of the Westbank Asbestos site, which is made up of six communities, were identified as being highly contaminated with asbestos containing materials (ACM). Soil samples were collected from residential and public access areas and analyzed for asbestos. Asbestos levels in residential properties were reported to be as high as 30%. As reported, the condition of the ACM is deteriorating, increasing the friability over time.

The asbestos present in the soils and materials are friable and accessible to residents who may inhale, or to a lesser extent, ingest asbestos fibers. Children are at an increased risk since they are more likely to play in soil and ingest or inhale fibers. Also, there is a concern that early exposure of children to asbestos would result in longer "residence times" for fibers in their lungs, and may increase the risk of cancer over a lifetime.

## **CONCLUSIONS**

Based on the available information, ATSDR concludes:

1. The site poses a public health threat to those who may come in frequent contact with the asbestos contaminated soil or ACM.
2. EPA's time-critical removal action for this site is warranted based on the friable condition of the ACM and the resultant concentration of asbestos fibers in the surrounding soils.

## RECOMMENDATIONS

1. If removal actions are not initiated within the next six to eight months, interim measures should be taken to stop or reduce human exposure to asbestos contamination.
2. During removal activities, implement dust suppression methods and air monitoring to ensure that exposure of residents to asbestos is minimized.
3. ATSDR will be available to assist EPA Region VI with further evaluation of sampling plans, etc., as they become available.



Tammie McRae  
Environmental Health Scientist



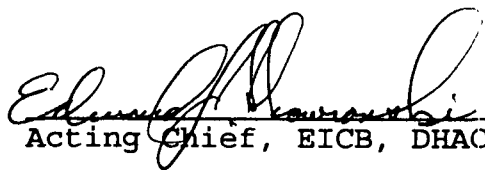
Concurrence: Timothy Walker  
Environmental Health Scientist

## REFERENCES

1. EPA Memorandum: Request of a Time-Critical Removal Action and an Exemption for the \$2 Million Statutory Limit at the Westbank Asbestos Site, Marrero, Jefferson Parish, Louisiana. From: John J. Martin, Senior On-Scene Coordinator, Site Response Section (6SF-R2), To: Jane N. Saginaw, Regional Administrator. August 13, 1996.



Approved:

 8/22/26  
Acting Chief, EICB, DHAC      Date



By \_\_\_\_\_ Date \_\_\_\_\_ Subject 5 pages Sheet No. \_\_\_\_\_ of \_\_\_\_\_  
Chkd. By \_\_\_\_\_ Date \_\_\_\_\_ Proj. No. \_\_\_\_\_

Tami,

I am going to classify our removal areas as one of three areas:

| <u>CLASSIFICATION</u> | <u>(max. depth)</u><br><u>EXCAVATE</u> | <u>BACKFILL *</u> |
|-----------------------|--|-------------------|
| Ⓐ YARD                | 2' (or 1')                             | sand/sod          |
| Ⓑ DRIVEWAY/WALKWAY ** | 6"                                     | concrete          |
| Ⓒ SERVITUDE           | 12"                                    | sand/limestone    |

\* All future restorations will geo-line our "hole" before backfilling (per EPA mgmt)

\*\* Rule of thumb: like-mat'l removed for like-mat'l restored

I would like your comments/recommendations on:

SITE #399: it has two small YARD AREAS Ⓐ as shown in the diagram. These areas were included in the composite sample of the entire area (mostly Ⓑ) which was visually clean and excavated to a depth of 6". Since the sample result was very low in asbestos content (less than 3% as attached), I would like to NOT excavate any further in these two areas, but to geo-line & backfill w/ sand/sod. I would say that these areas are "Low" access areas for utilization by homeowners.

SITE #455: (\*\*above; a driveway area Ⓑ should have greater than 50% ACM to receive concrete, otherwise a like-mat'l would be limestone usually). I would like to excavate only half of the driveway that has only a thin cover of gravel and replace w/ geo-liner/limestone.  
(con't)



By \_\_\_\_\_ Date \_\_\_\_\_ Subject \_\_\_\_\_ Sheet No. \_\_\_\_\_ of \_\_\_\_\_

Chkd. By \_\_\_\_\_ Date \_\_\_\_\_ Proj. No. \_\_\_\_\_

Site #455  
(con't)

We would remove all visible ACM & then sample. We would not address the back "half" of the driveway area that has "sufficient" cover of 5" gravel/thin layer of grass, (The gravel is the white shell mat'l). Also, we could add an inch or two of limestone to this back half.

Thanks,  
John

|                              |                                 |                                 |                               |                             |                               |                               |                                |                               |                             |
|------------------------------|---------------------------------|---------------------------------|-------------------------------|-----------------------------|-------------------------------|-------------------------------|--------------------------------|-------------------------------|-----------------------------|
| Westmont, NJ<br>800-555-0000 | Placerville, NJ<br>800-555-0000 | Carle Place, NY<br>810-407-7251 | Manhattan, NY<br>212-230-0052 | Seattle, WA<br>206-323-9007 | Ann Arbor, MI<br>313-668-6810 | San Mateo, CA<br>415-570-5401 | Emeryville, CA<br>904-333-0000 | Greenbelt, MD<br>810-297-1457 | Houston, TX<br>713-686-3615 |
|------------------------------|---------------------------------|---------------------------------|-------------------------------|-----------------------------|-------------------------------|-------------------------------|--------------------------------|-------------------------------|-----------------------------|



Ecology & Environment, Inc.  
11550 Newcastle Ave. #250  
Baton Rouge, LA 70816

Thursday, January 09, 1997

Ref Number: TX9748

## POLARIZED LIGHT MICROSCOPY (PLM)

Project: 020601 WESTBANK ASBESTOS

| SAMPLE    | LOCATION | APPEARANCE                      | SAMPLE<br>TREATMENT | ASBESTOS |                                   | NONASBESTOS |            |
|-----------|----------|---------------------------------|---------------------|----------|-----------------------------------|-------------|------------|
|           |          |                                 |                     | %        | TYPE                              | %           | NONFIBROUS |
| WBS399G01 | #399     | Brown<br>Fibrous<br>Homogeneous | Teased              |          | 2% Chrysotile<br>< 1% Crocidolite |             |            |

Comments: For all obviously heterogeneous samples easily separated into subsamples, and for layered samples, each component is analyzed separately. Also, "# of Layers" refers to number of separable subsamples.

Arthur Hernandez, Jr.  
Analyst

Approved  
Signatory

Disclaimer: PLM has been known to miss asbestos in a small percentage of samples which contain asbestos. Thus negative PLM results cannot be guaranteed. Floor tiles and wipes should be tested with either SEM or TEM. The above test report relates only to the items tested. This report may only be reproduced in full with written approval by EMSL. The above test must not be used by the client to claim product endorsement by NVLAP nor any agency of the United States Government. All "NVLAP" reports with NVLAP logo must contain at least one signature to be valid. Laboratory is not responsible for the accuracy of results when requested to physically separate and analyze layered samples.

Site #399: No further excavation needed; GEO-LINE entire "hole" and backfill w/ appropriate fill

Site #455: excavate (all visible ACM)

Prefer: ① excavate front portion of driveway to 6", geo-line that area. Then, <sup>scrape</sup> pull @ 2-3" of the 5" shell in the back driveway ~~work~~ & place on the geoliner. Geo-line the back portion & restore w/ crushed limestone. May consider plastic edging.

OR ②: Excavate entire driveway all visible ACM (no greater than 6"), geo-line, restore w/ limestone w/ plastic edging.

Site #302: No further excavation: Geo-line entire "hole" and backfill w/ appropriate fill.

Site #289: Excavate <sup>(all-visible)</sup> ACM to a depth no greater than 6". EPA will then sample and evaluate further action needed.

Site #268: No further excavation needed. Geo-line & backfill w/ appropriate mat'l

And, could I get a max  
one foot excavation depth  
in writing?

TO: Tami

Plz page me. Thanks,  
John

Sorry, I kept missing you. I'm usually in NOLA  
@ (504) 363-0037 or pager 888-444-5861.

Please review/comment on these sites. Maybe you  
could fax back your yeah or nay @ (504) 363-4732

Site #302: Grid 3 has been excavated to a depth  
of six inches - all visible. The sample  
results (<3% total asbestos) is attached.  
I would like to geo-line & backfill w/  
soil/sod mat'l.

Site #289: The ACM is located in the background  
in both surface & subsurface. Due to the extent  
of subsurface volume, I would like to remove  
the ACM found at the surface or w/in 4"  
of surface. The <sup>ACM</sup> areas greater than 4" beneath  
the surface has a good cover of soil and  
vegetation (Johnson grass). These areas are  
marked w/ \* on the diagram and are near  
the edges of the area of concern.

Site #268: Area D in the diagram has an excellent cover of 5" clay  
& vegetation (grass). I would like to leave in place  
(not disturb) and institutionalize the subsurface location.



ecology & environment, inc.

REGION VI

**START**  
SUPERFUND TECHNICAL ASSISTANCE RESPONSE TEAM

2150 Westbank Expressway  
Rear Trailer/Behind State Office Building  
Harvey, La. 70058

Telephone (EPA): (504) 363-0037  
Telephone (START): (504) 363-2980

Fax: (504) 363-4732

## WESTBANK ASBESTOS SITE FAX COVER SHEET

TO: Tami McRae  
LOCATION: \_\_\_\_\_  
FAX: 404-639-0655

DATE: 4/13/97 1/14/97  
CHARGE NO.: \_\_\_\_\_

PAGE 1 OF 6

FROM: John Martin  
SUBJECT: \_\_\_\_\_

REMARKS:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**From:** Roberta Erlwein  
**To:** R6HAZRD1.MARTIN-JOHN, BENNETT-STACEY  
**Date:** 11/5/96 11:56am  
**Subject:** Westbank

Stacey, sorry I missed you this morning. I did talk with John for a while and relayed some opinions from Atlanta:

1. Your proposal of digging 6" on driveways and easements and back filling with concrete is ok (protective of health in our opinion) IF YOU PUT A 'WARNING LAYER' (geotec or such) AND DO SOME SORT OF DEED NOTIFICATION.
2. for yards..2 feet with a "warning layer" and deed notification would be protective.
3. Regarding air monitoring, Atlanta recommended that side by side be done initially with about 10% of the samples being run as TEM...if the values are consistent between TEM and PCM..then you can discontinue the TEM analysis.
4. For soil sampling (confirmation)...it is probably not necessary to do any TEM at depth. PCM would be adequate. This is a change from our initial discussions, I am sorry to do that, but this is probably more reasonable approach.

As we discussed John, confirmation sampling on walls of excavation is highly recommended by Atlanta..otherwise you will not be able to be sure you are getting all the asbestos. Can I have a copy of your plan when it is done. Also I will be happy to set up a conference call with Atlanta for you to discuss these and any other issues..just let me know. Similarly, we can look into onsite ATSDR support if you decide it is something you want to do. Just let me know.

Hope this makes some sense (I am never sure I make any sense!!) Please let me know if I can help with something..talk to you later..Bobbie (x8360)

**CC:** PETTIGREW-GEORGE



FROM: McRae, Tammie  
TO: Erlwein, Roberta  
CC:  
SUBJECT: Westbank  
PRIORITY:  
ATTACHMENTS:

John -  
I ASKED for  
Better info on TECHNICAL  
for testing will keep you  
posted. George is handling  
this site while I  
Am out so  
feel free to ask  
him to ASSIST.  
THAT.

DATE: 08-23-96  
TIME: 10:24

8123

~~Good Morning Bobbie, I'm alot poorer now (from my dentist visit)!~~

9 Confirmatory sampling (post sampling) was completed on all properties a removal action was carried out in stratford. After an excavation was completed on a property, post soil sampling on the floor and walls of the excavation was completed. Prior to any excavation, a full site characterization was completed ..this included surface soil screening and depth sampling.....the extent of contamination was then determined and the depth of the excavation was estimated. If the contamination extended greater than 3 feet a geoliner (warning barrier that indicates wastes remain in place) was put in place then excavation backfilled with clean soil...

As far as soil analysis for asbestos...there were initial problems in stratford. the ctdph's lab has worked out these problems and jennifer kertanis (860-509-7757) is willing to get this info to us for the osc if needed..procedures etc.

please let me know if this info is what the osc was looking for.

have a great weekend..i will...god do i feel good, a new roof! what more could a girl ask for!!later, tam

-----  
Tammie McRae

Agency for Toxic Substances and Disease Registry  
Facsimile Transmission

Addressee: John Martin  
OSC Postbank

Addressee Telephone Number: 504-363-0037

Facsimile Telephone Number: 504-363-4732

Sender: T.A. McRae  
ATSDR / HQ

Sender Telephone Number: 404 639 0621

Number of Pages: 8  
(including this page)

Date: 1-16-97

Subject: Please Review - comment  
correct etc... also  
provide proposal for

Comments: property #455 - I know we discussed this but I  
can't remember details sorry - Thanks TAMMIE  
dig all driveway to 6" +  
geolme ??? sorry again

ATSDR Facsimile Numbers:

Office of the Administrator  
Executive Park, Building 33, Room 3726  
639-0700; Fax # 639-0744

Office of Information Resources Management  
Executive Park, Building 37, Room 3733  
639-0750; Fax # 639-0750

Office of Policy and External Affairs  
Executive Park, Building 37, Room 3737  
639-0500; Fax # 639-0522

Office of Federal Operations & Management  
Executive Park, Building 37, Room 3737  
639-0500; Fax # 639-0711

Division of Toxicology  
Executive Park, Building 33, Room 3321  
639-6000; Fax # 639-6000

Division of Health Assessment & Consultation  
Executive Park, Building 31, Room 3134  
639-0610; Fax # 639-0654

Division of Health Studies  
Executive Park, Building 31, Room 3136  
639-6200; Fax # 639-0569

Division of Health Education  
Executive Park, Building 37, Room 3730  
639-0700; Fax # 639-0744

Regional Services

Executive Park, Building 31, Room 3134  
639-0707; Fax # 639-0753  
Regional Fax Numbers (FIS # EXCEPT FTS 1)

Region 1: 617-860-4397 Region 6: 255-2237  
Region 2: 264-0654 Region 7: 276-7061  
Region 3: 597-0944 Region 8: 330-7559  
Region 4: 347-1157 Region 9: 484-2797  
Region 5: 886-2701 Region 10: 399-542

**2nd FAX**

**John,**  
**disregard**  
**1st fax -**  
**I reviewed**  
**it and had**  
**minor**  
**changes**  
**TAMMIE**

1/2/97

John -

One foot in Residential areas

OK with usual warning layer +  
notification provisions.

Also Tammi is BACK if you/we

need to talk with her. I told

her about 20 case by case / week which  
is ~~fine~~ fine.

Talk to you later -

Bobbie  
(x8360)